BEVERAGE CONTAINER REUSE AND RECYCLING ACT

HEARING

BEFORE THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

NINETY-SEVENTH CONGRESS

FIRST SESSION

ON

S. 709

TO REQUIRE A REFUND VALUE FOR CERTAIN BEVERAGE CONTAINERS, AND FOR OTHER PURPOSES

NOVEMBER 5, 1981

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BEVERAGE CONTAINER REUSE AND RECYCLING ACT

THURSDAY, NOVEMBER 5, 1981

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, D.C.

The committee met at 9 a.m., in room 235, Russell Senate Office Building, Hon. Bob Packwood (chairman of the committee) presiding.

OPENING STATEMENT BY THE CHAIRMAN

The CHAIRMAN. The committee will come to order.

We are gathered today for the hearing on S. 709, the Beverage Container Reuse and Recycling Act. I can say, speaking, I think, both for myself and Senator Hatfield, that in Oregon, we have seen this bill, or a similar bill, work well from the standpoint of what it was designed to do. It was designed to help clean up bottles and cans from our highways and our lakeshores and our beaches and, indeed, it has done that.

I don't make any pretense of saying that a bottle bill, as we call it in Oregon, is a litter law; it is not. It is not designed to clean up ice cream cartons and other kinds of refuse.

But to the extent that it works as intended, we've been very satisfied with it. The people of Oregon like it. If there's any down sides to it, it has not appeared in any poll or evidence that any of us who represent the State of Oregon have ever seen. If this measure were placed on the ballot today, I would estimate that it would be reaffirmed by the people in Oregon on the magnitude of 8 or 9 or 10 to 1.

Other States that have had similar types of legislation seem to indicate by the polls in those States similar support.

So the hearing today is to decide whether or not a similar bill should be enacted on a national level.

All of the witnesses today I think have been advised of the rather severe time constraints we are operating under on testimony. All of your testimony will be placed in the record. You don't need to ask for that. I would appreciate it if you would abbreviate your testimony, make the main points that you want to orally rather than simply reading from your statement, because we will adhere very closely to the time constraints that you've been advised of.

Senator Danforth?

OPENING STATEMENT BY SENATOR DANFORTH

Senator **Danforth**. Mr. Chairman, thank you very much. You and I have discussed this matter numerous times over the years. As you know, I have at least a couple of questions about the bill which I would like to resolve in my own mind. One question is just very short term and the other is a time-honored question. The short term one is this. Senator Hatfield well knows, as chairman of the Appropriations Committee, that we have something of a budget crunch problem. The Appropriations Committee has felt this, and it will continue to, and in the Finance Committee, we have, too. The estimates of the budget deficit seem to change almost weekly and get worse almost weekly. There's considerable talk about the need to raise revenues, as well as cutting back on spending.

One of the suggested methods of raising revenue is to increase excise taxes. And one of the increased excise taxes is on beer; at least that's been suggested. I don't advocate it or advocate opposition to it.

At a time when we are at least considering various ways to enhance revenues, should we be getting involved in this kind of a bottle bill, which would also increase the charge, at least for buying a bottle of beer?

I don't emphasize that point because I really think that that is a question that is topical rather than one that is a perennial question in government. But the perennial question is this, and it really is as old as the Founding Fathers.

Senator Packwood pointed out in his statement, the point of this bill is very simple, and that is to discourage the dropping of cans and bottles and to encourage picking them up. It isn't a litter bill, I guess, in that it doesn't cover all forms of litter, but it is directed against littering. Some say that there is an energy-saving component in it, but I don't think that very many people would seriously argue that that is the thrust of the bill or that the cost of the bill in economic terms would justify the pittance in energy savings which, theoretically, could occur. So basically, what it is is a bill which is directed against littering.

It seems to me that the perennial question of government is at what level of government should decisions be made? What types of decisions should be made at the Federal level? What types of decisions should be made at the State or at the local levels? There are some people who would advocate that virtually no decision should be made at the Federal level, and there are others who would advocate that virtually everything should be decided at the Federal level. I don't take either of those extreme positions myself.

But I don't think that it is appropriate to say that because something works or because something is desirable, that, in and of itself, justifies doing it at the Federal level. There have to be some issues that, no matter how we feel about them personally, we have to leave to some other level of government.

I would say that to get the Federal Government involved in the question of what Joe Blokes does with an empty beer can or soda can, to elevate that to a matter of concern for the Federal Government would be, in effect, to say that there is absolutely nothing, nothing which is done at any level of government, that isn't appropriate for the Federal Government to do.

I really think that it's a Federal question that is involved here. I would be skeptical, to say the least, of bringing within the purview of the Federal Government the question of dropping bottles and cans. I don't like bottles and cans to be dropped, either. I have a farm in the Ozarks in Missouri. It's a beautiful, beautiful place. I go fishing or go horseback riding and look down and see some guy has dropped a can, and it makes me sick.

But whether it makes me sick or not I don't think is really the point. The point is, is this really the area for the Federal Government, or is this almost a symbolic question on how much power we transfer on?

The **CHAIRMAN**. I would respond only briefly. In my opening statement, I mentioned that this law works in Oregon and it cleans up bottles and cans. At the time we passed the law in Oregon, it was before this Nation realized the energy crunch. We passed this before the 1973-74 increase in oil prices, and at the time it was passed, the emphasis was on environment and on littering. But as we proceed with these hearings, a number of witnesses are going to address themselves to energy and will make the case very strongly that this bill is a net energy saver at a time when this country should be looking to save any form of energy that they can.

Senator Heflin has a statement that I will insert in the record along with the bill.

[The statement and bill follow:]

OPENING STATEMENT BY SENATOR HEFLIN

Today the committee conducts hearings on S. 709, the Beverage Container Reuse and Recycling Act. Generally, this bill is an attempt to control the problem of litter by imposing a 5-cent deposit on all beverage containers purchased in the United States. To date, six States have implemented similar programs and the results have been mixed. I believe this proposed regulation is a costly and untimely imposition on the retailers and manufacturers of beverage containers and the consumers who purchase those beverages.

Mr. Chairman, I share the concerns of all Americans over the problem of litter which endangers our environment and wastes precious energy. The problem must be treated seriously and dealt with effectively. However, I don't believe the so-called "bottle bill" is the most desirable and cost-efficient method of reducing litter and solid waste. The potential benefits of this program are far outweighed by the economic and social cost to the consumer. Furthermore, alternative programs, such as recycling, which have been implemented by many States have proven to be successful in controlling litter and much less costly to the consumer.

There are a number of drawbacks to a Government-imposed mandatory deposit program. First, if a minimum 5-cent deposit is implemented on all containers, consumers will be forced to pay higher prices for the beverages they purchase as has happened in all six of the States that have adopted similar laws. For example, in Iowa, the bottle bill cost consumers $20 million in its first year. These higher prices are due primarily to greater costs incurred by retailers in handling, sorting, and storage of the returned containers. These costs are passed along to the consumer, who must also bear the burden of the 5-cent mandatory deposit on the container. As we know, the administration and Congress are asking all Americans to sacrifice in order to bring inflation under control and return fiscal responsibility to the Federal budget. I don't believe the Government should be forcing higher costs on the American consumer by adding to the already inflated prices of consumer products. Also, it has been shown that in many of the States that have implemented mandatory deposit programs, unemployment from layoffs at bottle and can manufacturing plants have resulted.

Second, the bottle bill is concerned with beverage container litter, which makes up only twenty to twenty-five percent of the total litter in the United States. Therefore, the program only attempts to correct a small fraction of the overall litter problem. Though beverage-related litter has been reduced to some extent in those

States that have adopted the bottle bill, other forms of litter show no sign of reductions.

Mr. Chairman, the States recognize the severity of the litter problem in this country, and many have implemented important and successful programs designed to deal with the problem without imposing further regulatory burdens on business and higher prices to the consumer. The most effective and cost-efficient of these alternative programs are the comprehensive litter/recycling programs found in several States. I can point to my own State of Alabama as illustrative of how successful a voluntary recycling program can be in both reducing litter and saving energy.

The Alabama Environmental Quality Association has performed a remarkable job in implementing successful voluntary recycling programs throughout the State. The results of these voluntary programs have been dramatic. For example, since implementing a voluntary recycling program, Huntsville, Alabama has experienced a forty percent reduction in litter; Montgomery, an eighty-six percent reduction; Athens, a sixty-seven percent reduction; Birmingham, a fourteen percent reduction; Hamilton, a forty percent reduction; and Sumter County, a seventy percent reduction. Furthermore, in 1980, recycling ranked three out of seventeen energy-saving efforts monitored by the Alabama Department of Energy. As a result of these recycling efforts, Alabama saved 11.69 trillion Btu's of energy last year.

Mr. Chairman, I believe recycling programs, such as the one found in my home State of Alabama, illustrate the continuing efforts of all citizens to reduce litter in this country by comprehensive, efficient means. The Federal Government must not impose costly regulations on the States, but instead should encourage them to create and implement their own litter programs.

Thank you, Mr. Chairman.

II

97TH CONGRESS
1ST SESSION

S. 709

To require a refund value for certain beverage containers, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MARCH 12 (legislative day, FEBRUARY 16), 1981

Mr. HATFIELD (for himself, Mr. PACKWOOD, Mr. CRANSTON, Mr. LEAHY, Mr. STAFFORD, Mr. INOUYE, and Mr. TSONGAS) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

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A BILL

To require a refund value for certain beverage containers, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Beverage Container Reuse and Recycling Act".

FINDINGS AND PURPOSES

SEC. 2. Congress finds and declares that—

(1) the failure to reuse and recycle empty beverage containers represents a significant and unnecessary

waste of important national energy and material resources;

(2) the littering of empty beverage containers constitutes a public nuisance, safety hazard, and esthetic blight and imposes upon public and private agencies unnecessary costs for the collection and removal of such containers;

(3) empty beverage containers constitute a significant and rapidly growing proportion of municipal solid waste, disposal of which imposes a severe financial burden on local governments;

(4) the reuse and recycling of empty beverage containers would eliminate these unnecessary burdens on individuals, local governments, and the environment;

(5) a uniform national system for requiring a refund value on the sale of all beverage containers would result in a high level of reuse and recycling of such containers;

(6) a national system for requiring a refund value on the sale of all beverage containers would result in significant energy conservation and resource recovery;

(7) a national system for requiring a refund value on the sale of all beverage containers would be anti-

inflationary and help create jobs in areas of commerce; and

(8) a national system for requiring a refund value on the sale of all beverage containers would be inexpensive to administer because of its self-enforcing nature.

DEFINITIONS

SEC. 3. For the purposes of this Act the term—

(1) "beverage" means beer or other malt beverage, mineral water, soda water, or a carbonated soft drink of any variety in liquid form and intended for human consumption;

(2) "beverage container" means a container designed to contain a beverage under pressure of carbonation;

(3) "refundable beverage container" means a beverage container which has clearly, prominently, and securely affixed to, or printed on, it (in accordance with section 4) a statement of the amount of the refund value of the container;

(4) "consumer" means a person who purchases a beverage in a beverage container for any use other than resale;

(5) "distributor" means a person who sells or offers for sale in commerce beverages in beverage containers for resale;

(6) "retailer" means a person who purchases from a distributor beverages in beverage containers for sale to a consumer or who sells or offers to sell in commerce beverages in beverage containers under pressure of carbonation to a consumer. The Administrator shall prescribe such regulations as may be necessary to establish what person is a retailer with respect to the sale of beverages in beverage containers under pressure of carbonation to consumers through beverage vending machines;

(7) "Administrator" means the Administrator of the Environmental Protection Agency;

(8) "commerce" means trade, traffic, or transportation—

(A) between a place in a State and any place outside thereof,

(B) within the District of Columbia or any territory of the United States, or

(C) which affects trade, traffic, commerce, or transportation described in subparagraph (A) or (B); and

(9) "State" means a State, the District of Columbia, the Commonwealth of Puerto Rico, or any territory or possession of the United States.

REQUIRED BEVERAGE CONTAINER LABELING

SEC. 4. No distributor or retailer may sell or offer for sale a beverage in a beverage container under pressure of carbonation unless there is clearly, prominently, and securely affixed to, or printed on, it (in accordance with regulations prescribed by the Administrator) a statement of the amount of the refund value of the container, such amount being not less than 5 cents.

RETURN OF REFUND VALUE OF BEVERAGE CONTAINERS

SEC. 5. (a)(1) If a consumer tenders for refund an empty and unbroken refundable beverage container to a retailer or distributor who sells (or has sold at any time during the period of three months ending on the date of such tender) a brand of beverage which was contained in the container, the retailer or distributor respectively shall promptly pay the consumer the amount of the refund value stated on the container.

(2) If a retailer tenders for refund an empty and unbroken refundable beverage container to a distributor who sells (or has sold at any time during the period of three months ending on the date of such tender) a brand of beverage which was contained in the container, the distributor

shall promptly pay the retailer (A) the amount of the refund value stated on the container, plus (B) an amount equal to 2 cents per container to help defray the retailer's cost for handling. This payment may be adjusted by the Administrator, following evaluation and public comment, to reflect the true cost of handling beverage containers.

(b) The opening of a refundable beverage container in a manner in which it was designed to be opened and the compression of a metal refundable beverage container shall not, for the purposes of this section, constitute the breaking of the container if the statement of the amount of the refund value of the container is still readable.

RESTRICTION ON METAL BEVERAGE CONTAINERS WITH DETACHABLE OPENINGS

SEC. 6. No distributor or retailer may sell or offer for sale a beverage in a metal beverage container a part of which is designed to be detached in order to open such container.

PREEMPTION OF STATE AND LOCAL LAW

SEC. 7. (a) Except as otherwise provided in this section, no State or political subdivision thereof may establish or continue in effect any law respecting a refund value of beverage containers sold with a beverage under the pressure of carbonation to the extent the Administrator determines the law is inconsistent with this Act.

(b) No State or political subdivision thereof may, for the purposes of determining the amount of any tax imposed by such State or subdivision on the sale of any refundable beverage container, take into account any amount charged which is attributable to the refund value of such container.

(c) Subsection (a) does not prevent a State or political subdivision thereof from establishing or continuing in effect any law respecting a refund value on containers other than for beverages.

PENALTIES

SEC. 8. Whoever violates any provision of section 4, 5(a), or 6 shall be fined not more than $1,000 for each violation.

EVALUATION AND TECHNICAL ASSISTANCE

SEC. 9. The Administrator shall monitor, before and after the effective dates of sections 4(a) and 6, the rate of reuse and recycling of beverage containers, and shall evaluate and report to Congress annually at the end of the first four years after the date of the enactment of this Act thereafter as the Administrator sees fit on the impact of the provisions of this Act on—

(1) conservation of energy and material resources;

(2) resource recovery and the reduction of solid waste and litter; and

(3) the economy.

CONSULTATION ON EMPLOYMENT DISLOCATION

SEC. 10. The Administrator shall advise and consult with the Secretary of Labor on steps that the Secretary might take, through existing authorities, to identify and provide assistance to individuals whose employment may be adversely affected by this Act.

EFFECTIVE DATES

SEC. 11. (a) Except as otherwise provided in subsections (b) and (c), this Act shall take effect on the date of its enactment.

(b) The provisions of sections 4, 5, and 7 shall apply with respect to beverage containers sold or offered for sale in interstate commerce on or after two years after the date of enactment of this Act.

(c) The provisions of section 6 shall apply with respect to beverages in beverage containers sold or offered for sale in interstate commerce on or after one year after the date of enactment of this Act.

(d) The provisions of section 7(a) shall preempt State and local laws to the extent to which they are inconsistent with the provisions of this Act only on and after the respective effective dates of such provisions.

○

The **Chairman**. Our first witness today is the principal sponsor of the bill, Senator Mark Hatfield, my colleague from Oregon. Good morning, Mark.

STATEMENT OF HON. MARK O. HATFIELD, U.S. SENATOR FROM OREGON

Senator **Hatfield**. Thank you very much, Mr. Chairman. Mr. Chairman, Senator Danforth, I very much appreciate the opportunity to be here today to testify before this committee. In this environment of an institution that more frequently is moved by expediency than by principle, I would like to address one very narrow issue, and that is the principle of stewardship. I think that too often we do not lay a foundation, a philosophy; in our government or legislation. And therefore, we frequently find ourselves without guidelines or direction as to where we're really trying to move and what we're trying to achieve.

The word "stewardship" has a very important meaning. It means the enlightened use of our material resources, our natural and raw materials. For renewable resources, it means replacement as fast or faster than we use them. The forestry industry and the forest management practices are examples of that idea.

For the nonrenewable resources, it means taking as little as possible of the virgin resource and reusing the extracted resources as many times as possible. It does not mean ceasing or slowing development. Too frequently, we get into the position where, if one is for resource management, conservation, and stewardship, then he must be against growth and economic needs. I do not agree with that.

Stewardship is important because we really are stewards of all the creation and the raw materials. Global 2000 Club of Rome and other studies show that we're running out of accessible deposits of many minerals. And while they will continue to exist, it is becoming prohibitively expensive to extract them from the Earth. We have seen that trend line very dramatically in many of our raw materials. We are overusing these resources, to the detriment of future generations of Americans.

Stewardship is necessary in order to avoid mortgaging the future, which must be lived by our descendants.

S. 709 addresses this issue directly. Let me just say that I think that this is far more, Senator Danforth, than a litter bill. I think litter is really only an incidental issue because the beverage industry, by 1984, will be using over 5.2 million tons of glass annually. It will be using 1.5 million tons of steel; 48 percent of that will be imported. It will use 530,000 tons of aluminum. That's enough to build over 6400 Boeing 747's, and 98 percent of that aluminum will be imported. It will be using 360 trillion Btu's of energy.

Now with a bill in place such as this bill, and we base our estimates upon the experience at the State level, we will have about a 90 percent return. That means simply that it will save approximately 4.7 million tons of glass, 1.3 million tons of steel, 500,000 tons of aluminum, 100 to 144 trillion Btu's of energy. No other system of recycling approaches the 90-percent effectiveness of the mandatory deposit bill.

Therefore, I suggest that in the context of stewardship, S. 709 *means a better use of our raw materials.* That is more fundamental to me than litter or anything else. That is really basic to sustaining life on this planet.

I think S. 709 is a real step toward stewardship because the savings mentioned are achieved while manufacturing all 100 billion containers per year that are presently forecast by the beer and soft drink industry. The economies of scale will reduce the costs of recycling beverage containers, which will diminish as we broaden the base of recycling. It will also increase the profit of handling containers to the middleman, thus promoting the recycling industry.

This is exactly what has happened in Oregon; a State with one of the strongest recycling industries in the entire Nation built upon the bottle bill.

A symbolic step is also involved here besides the substantive step toward stewardship.

There is an all-pervasive problem of what to do with the 10.2 million tons of beverage containers' waste generated each year. Handling solid waste in this country is, indeed, one of the major problems. S. 709 can be an educational tool to teach us more about conservation and good stewardship with all of our resources.

In Oregon, the recycling industry is strong because deposit containers provided the impetus, but deposits have also caused a greater awareness of the need to recycle more paper, cans, scrap metal, et cetera. This recycling is done at no loss of living standard.

Let me just address momentarily the Michigan experience. I think one of the chief remaining arguments of the antideposit forces has been the difficulty in applying deposit laws in the so-called urban States. Now since the last hearing of the Senate committee, the State of Michigan has successfully implemented a deposit law. In December of last year, the GAO issued a report addressing the Michigan experience. I have that report here. Let me mention some of the findings.

The GAO found that the sales were down 3 to 5 percent. However, during the same period the bill went into effect, Michigan population dropped, unemployment went up, tourism fell, and the soft drink profit margins increased on the average of 20 to 30 percent.

But in the beverage industry, employment increased against the overall State higher unemployment. That employment increased by 4,648 jobs. This would translate to about 80,000 jobs nationwide if a national deposit law were in effect.

Now let me address the issue of litter in this same Michigan experience. The beverage container litter was down 87.4 percent piece count. Total litter was down 5.6 percent. The capital investment in Michigan business was up about $100 million in making the returnable system work but that one-time capital investment equals only about 2 cents per container for each returnable container sold in Michigan during 1979.

Despite these costs, the GAO study clearly shows that the quantifiable benefits were very favorable in Michigan.

I would like to also indicate my special appreciation today to the Coors Brewing people who have sent a representative to testify on behalf of this bill. They're doing so in the face of very strong industry opposition. I applaud any American who is willing to speak up for the courage of his convictions.

Now, Mr. Chairman and Senator Danforth, if I could just make two brief comments concerning the two points that Senator Danforth raised. First of all, the argument as to whether something is national or local—that argument has been going on since the founding of the Republic. In fact, it was because States were arguing their trade prerogatives and trade policies under the Articles of Confederation, that we were motivated toward the Philadelphia conference that ended with the Constitution.

Jumping from that period of history, I would like to suggest that the committee, if this becomes a very important issue, go back and reread the Department of Commerce from 1921 to 1929. The Department of Commerce, during that period of time, was built under the leadership of President Hoover, because of the fact that business in America was preaching the philosophy that every regulation for standardizing in any part of business operations, was a local, or State matter. For instance, the United States used various sizes of lumber products. A 2 by 4 in one State was not quite a 2 by 4 or was more than a 2 by 4 in another State. But through the new Commerce Department, Federal airways were issued. Licenses for radios were no longer issued at the State level, thus eliminating the conflict of overlapping of radio transmissions. Standardization of measurement, weights, and so forth, was one of the great things that happened during that period in this Nation. We began to look upon business as interstate, as national. There had been great resistance on the part of many businesses—they didn't want the Federal Government involving itself until it actually happened. Then they found that standardization really reduced costs of operation and increased profits.

I suggest that we're going to come to the simple conclusion, because I would leave with the committee—I'm sure you have this—a list of the States that now have adopted a bottle bill and the other States that have introduced such legislation and the slight variations that exist among these State laws. Today, there is growing centralization of beer breweries and production. We used to have a number in our State. We only have one left and that has been purchased by a national corporation. But as these businesses become more centralized, they will want uniform practices for bottle labeling and other functions. They will become more and more frustrated by the various State laws as they continue to be enacted.

So I think that one can build a case that we are not simply seeking to establish a Federal prerogative. But we are actually facilitating industry, commerce, and reducing the costs of operation.

We have had a lot of experience in standardizing weights and measures for industry. We're now trying to do this internationally. The same problem now exists as between Japan and the State of Oregon and other timber-producing States. Because the Japanese homebuilding industry had different standards of measurements, and we had to manufacture those standards, rather than our own.

Now, through international comity, treaty, and agreements nations are standardizing products so that the world commerce can flow more easily.

I really feel that deposits are a valid issue for the Federal Government involvement. I think we should be concerned about far more than just litter and litter control. There are some tradeoffs for the short term increased costs. There are great savings in energy, savings in litter, and more important than either of those, the savings in raw materials.

The **CHAIRMAN**. Interestingly, in the testimony that Coors will present later today, they cite the example of what they have to do to meet the particularities of the Iowa law. They have to shut down their line and convert over to produce cans and bottles for that particular State and for that particular unique situation. They very strongly argue that the time has come when we need some uniformity for those who are marketing on a nationwide basis.

In addition to the States you cite, there are several counties and cities passing legislation of one form or another. Very seldom is it uniform.

One of these days, there is going to come a tipping point where the principal opponents of this legislation will come to this Congress and say that they cannot have this fracturing of the market and we need unformity.

Senator Danforth?

Senator **DANFORTH**. Senator Hatfield, I would never argue a return to some bygone days or to the Continental Congress or something like that.

Senator **HATFIELD**. No. But Senator, the principle that I addressed in that example was a result of your question today. Should the Federal Government be in the business of standardizing deposits on the national basis or should it be left to the States. I believe the Federal Government has a right and obligation to standardize on a national scale, when the situation merits it. That's the principle.

Senator **DANFORTH**. That is the principle. We face it in this committee all the time. Sometimes I come down on one side and sometimes on the other. But I think that so often what we do in the Congress is we think about some results that we want to achieve and we say, gee, that's the difficulty. Let's do it. Why, the simplest way to do it is for Washington to do it. Therefore, let's move.

It seems to me that we often lose sight of the more basic question, which really was one that the Founding Fathers wrestled with; that is, where should decisions be made? What kinds of decisions should be made where?

I will review your arguments with great care on savings of aluminum and so on, and it may be that that is a sufficiently national concern to justify it. But it seems to me, just at first blush, that the basic point of the bill doesn't even have to deal with manufacturing or shipping of goods, but has to do with the basic question of Mr. John Q. Public, who has just finished drinking his beer. He's got an empty can in his hand. What does he do with it? I don't want him to pitch it by the roadside. I want him to take it in somewhere. I'd like to have him do that. But the question really is: What does he do with his beer can?

I adopt a show-me attitude on that one because it seems to me that there is nothing more local than a question of whether a guy pitches his can or takes it somewhere.

We had about a year ago a question with the EPA on garbage compactors. The Environmental Protection Agency had a standard on the decibel level to be emitted by garbage trucks. At the time, you know, who could be for loud garbage trucks? I mean, what politician is going to say, "I am for loud garbage trucks"?

Nobody likes them. It was my view at the time that there is nothing more local than that, that the noise emitted by a truck is something that is truly a matter of local concern, and if a local government wants to govern it, fine. But let's not have the EPA get into the act.

I think in this particular instance that the thrust of this bill is basically one of esthetics. It's ugly to have a beer can in my stream. I doubt however that there is sufficient national concern. I think that it's straining matters to elevate this to a matter of congressional attention.

Senator **Hatfield**. Would the Senator permit me to respond? I fear that the Senator has missed the entire thrust of my point. It is not a simple matter of what a person does once he has finished with a beer can or a bottle. The question is what is the cost to this Nation of discarding a beer can or a bottle? In other words, can we afford to waste the raw materials and energy?

Senator, let me say to you, as one who has been involved in natural resource problems for many, many years, the question is simply the diminishing availability of raw materials in this Nation. This problem has led us to a brink of war; namely, the 1973 nuclear alert in the Mediterranean and in the Persian Gulf area. And today, availability of oil is what's directing our foreign policy in the Middle East. And the scarcity and the growing dependence of America on oil is symbolic of the diminishing raw materials base upon which this Nation depends.

The U.S. Geological Survey has a chart and study showing the diminishing quantity of indigenous raw materials in this Nation, the growing dependency of this Nation on imported raw materials from the rest of the world.

That's the issue. It's not an issue of litter. It's not an issue of whether you put the can in the garbage can or throw it out on the roadway. The issue is the diminishing raw material base of this Nation. And unless we address that issue in a way that will educate people to the conservation ethic; unless we displace the throwaway ethic that we have developed, this wasteful, exploitative rape of our resources for the sake of convenience, will continue to its logical end. We have erected false gods of convenience and disposability in our culture and we have to destroy those false gods and restore the conservation ethic. That's the issue.

Senator **Danforth**. Mr. Chairman, if I could just ask one more question of Senator Hatfield. Then would you agree that the litter question, the esthetic question, does not and cannot justify Federal legislation? And in weighing the advisability of this bill, we in the Commerce Committee should view it in terms of the practicality, the cost, the benefit of conserving national resources and the price that is paid for that in economic terms?

Senator **Hatfield**. No. No, I would not agree to that at all. I think that there are multiple points, multiple issues involved. Why do we have an Environmental Protection Agency? Because we believed that pollution is a national concern, a national problem.

Senator **Danforth**. Air and water, clearly, but not a piece of litter on the roadside.

Senator **Hatfield**. Oh, absolutely. Litter is one of the sources of a solid waste problem in our environment today that affects water, that affects air. That's why we have the EPA. Now if we followed your line of reasoning, we would abolish the EPA because it addresses local concerns. But these are national concerns. Pollution, whether it's visual pollution or water pollution or air pollution, is affected by solid waste.

Senator **Danforth**. Believe me, I don't want to abolish the EPA.

Senator **Hatfield**. I didn't think you did.

The **Chairman**. I have no other questions. Thank you very much.

Senator **Hatfield**. Thank you. Here's the full statement that I will leave.

The **Chairman**. I'll put it in the record. Thank you.

[The statement follows:]

STATEMENT OF HON. MARK O. HATFIELD, U.S. SENATOR FROM OREGON

Mr. Chairman, thank you for your kind invitation to this hearing, today. Based on the Oregon experience, Mr. Chairman, you and I have reintroduced a version of the mandatory beverage container deposit law, every year since 1973. Our interest in deposit legislation has developed as a result of the great success we have personally seen in Oregon, since the Oregon deposit bill was passed in 1971.

Oregonians have a reputation for being concerned with the environment in which they live. It has become almost traditional wisdom within the State that the excellent physical environment in which we live is largely responsibile for the quality of our daily lives. In 1972, that concern was manifested in the Oregon "Bottle Bill", which enacted a deposit on beverage containers, i.e. soft drinks and beer, and banned disposible pull tabs from the beverage cans which were covered under the law. Incidentially, two things the Oregon bill did not do, and which the national bill does not do, either, was to require all containers to be refillable, or to require anyone to return their bottles and cans. All this concept does is to internalize the costs of one's decision to throw a bottle or can away.

The Oregon experience was successful to such an extent that last year Governor Atiyeh stated, "Oregonians support the Bottle Bill with enthusiasm usually reserved for popular sports, motherhood and the flag." According to the Oregon Highway Division, litter was reduced 83 percent on Oregon highways after only two years. An added bonus, and one which is becoming more and more important as time goes by, is the fact that 1.4 billion BTUs per year of energy were saved by the enactment of mandatory deposit legislation in Oregon. That is the equivalent of a years's heating requirements for 50,000 Oregon homes. After the initial settling down period, there was no significant price increase in beverages. Beverages sold in no deposit-no return containers had always been higher and after the bill, deposit containers were approximately the same price. Over the last 7 years much greater factors in the price increases of beverages have been the sugar price rise and inflation, generally. It is true that there was an intitial drop in can sales but this was largely attributable to the pull tab ban at a time when nondetachable pull tabs had not begun to appear on the market. Once that technological problem was solved, the can share climbed rapidly and is now almost equivalent to the predeposit percentage. Balancing this minor inconvenience is the fact that 1978 public opinion polls indicated that 90 percent of the people in Oregon favor the Bottle Bill.

My bill, S. 709, is similar to the Oregon bill. There are two significant differences. First, S. 709 has a single tier deposit. That means that there is no difference in level of the deposit based on whether the container is refillable. That was an attempt to minimize the possibility of market distoration. Second, S. 709 has included in it a 2 cent handling charge per container to be assessed by the supermarket against the distributor. This change is based on a recent study by the Food Marketing Institute which demonstrated that the average cost to a retailer of handling a returned beverage container is presently 2.37 cent. Simultaneously, the distributor retains 10 percent of the returned deposits by virture of the fact that the containers are not returned. Nationally, those retained deposits should amount to well over $300 million.

The opponents of the bill have as their greatest weapon in the Senate, as well as before the nation as a whole, ignorance. They avoid publicizing the magnitude of the industry. By 1984, industry expects to manufacture 100 billion soft drink bottles and cans. In raw materials that figure includes over 5.2 million tons of glass, 1.5 million tons of steel, and over 530,000 tons of aluminum (enough to build over 6,400 Boeing 747's). In Order to turn these raw materials into bottles and cans will require 360 trillion BTUs of energy. Incidentally, these processes will generate over 12.5 million tons of refuse. Translate this into economic power and it becomes apparent why it is so difficult to pass state legislation. Industry has outspent proponents of deposit legislation in every election in every state by ratios of 15–40 to 1. Prior to the unsuccessful 1980 election in Ohio, environmentalists collected $80,000 to pass deposit legislation. Industy spent nearly $2 million to defeat it. Then, following the elections, the industry took out full page advertisments in nearly every major newspaper in the United States to trumpet the elections it bought in Ohio and Washington States, while ignoring the fact that in Maine, where a repeal effort was underway, antideposit forces were easily defeated by a margin of 84% to 16%, despite a heavily financed repeal campaign. While it is dangerous to interpret such statistics, I like to think that these results indicate that once the people of the United States have an opportunity to work with the deposit concept and understand what it does for them, they will be overwhelmingly in favor of it.

It is easy to become disheartened in the face of such well-financed, high profile opposition. It requires a strong commitment to stewardship. From any perspective, I am persuaded that there are numerous reasons to promote stewardship, and I consider the mandatory deposit one of the best. Each year, between 80 and 100 billion containers are sold in the United States which would be covered in this legislation. That amounts to a can or bottle of beer or soft drinks per day, every day of the year, for every man, woman and child in the United States. The problem of what to do with the mountains of waste from this habit is pervasive in our society. Thus the attempt to find a solution will have just as pervasive an influence on society. In Oregon, it is claimed that as citizens become accustomed to separating their beverage containers, it was a small step to save other cans and papers for reuse. The result is one of the most thriving recycling industries in the nation. While I do not necessarily speak for the other cosponsors of S. 709, I am trying to accomplish more than merely large scale recyclng of beverage container waste. I believe that this bill will help to fundamentally change the average American's attitude about the value and potential for reuse of his waste products.

For centuries, we have had the luxury of ignoring the indirect costs of our use of the planet. That is a luxury we can no longer afford. If we are to be wise rather than rapacious; if we intend to leave anything of worth to our children and their descendents, then we must give value for value. We must balance our consumption of the earth's resources with the renewal of those resources whenever possible. Where resources are not renewable, we must use no more than a reasonable share and reuse what we can. This does not mean that we must lower our standard of living. We can maintain our standards if we are willing to be a little bit creative in the use of our earth's resources. The national deposit bill is a substantive and symbolic step in that direction. Despite dire statements to the contrary, the mandatory deposit bill will not infringe on a citizen's convenience. He or she will still have the option of discarding beverage containers. The bill will only obligate each user who discards a bottle or can to pay something nearer to the true cost of that decision to discard. Conversely, a mandatory deposit will provide incentive to those who choose to participate in the cleanup of our land, the recovery of resources and the saving of scarce energy.

Opponents of the mandatory deposit bill are not unaware of the arguments I have made today. They have counter arguments to all the statistics I have quoted. If I can cite a raise in overall employment, they can cite a drop in skilled employment in the affected industries. They are right. There will be some dislocation. Employment dislocation will be minimal, however, and should not be an issue which is fatal to the legislation. I might add, also, that there was no industry concern about the jobs and small businesses which were destroyed with the advent of the nonreturnable bottle.

In other examples, If I can cite savings, the opponents can claim inflationary impact. If I can cite public approval, they can cite one election in one place and say that it represents the national trend. These arguments eventually become a battle of statistics, and only serve to bear out the fact that any situation, sufficiently manipulated, can result in statistics favorable to any point in view. As one sage has said, "I never met a statistic I didn't like.".

Yet, every now and then, one of the organized opposition is willing to call a spade a spade, Five years ago, the Alcoa Aluminum Company informed the industry that it would no longer support antideposit campaigns. Amid a withering onslaught from other members of the industry, Alcoa has adopted a neutral stance. Coors Brewing Company of Colorado, which is being represented in testimony today, actually designed a "Closed loop" program to assure that Coors containers are recycled. One of my favorite letters was written to Representative Joseph Fisher of Virginia by Mr. Arthur Arundale, Chairman of the Board of PepCom Industries, the nation's largest exchange listed Pepsi Cola bottler, wrote:

"I realize that our compamy is not in our industry majority in support of this legislation, but we believe it is in the best interest of the American consumer and in the long run will be in the best interests of our industry. We . . . have observed extraordinary growth of throwaway containers in our areas. We regard this as both detrimental to the environment and a waste of critical energy and material resources.

"It seems to me that once in a while we have to put principle before a buck."

I suggest that the earth resembles a large lake. There is no outlet for our massive wastes no matter how noxious. There is no inlet to bring us more of what we waste. Moreover, like fish in the lake, we are forced to live amidst whatever problems we create. We should not stop progressing, inventing, growing. But whatever we do, we should keep this thought in mind and ask ourselves, "Is there a way I can do this less wastefully and more responsibly?" I believe the mandatory deposit legislation represents the best answer to that question when it asked about the waste created by beverage containers

Thank you, Mr. Chairman.

The CHAIRMAN. Next, we'll take Mr. Arthur Corazzini from the GAO. Mr. Corazzini?

While he's coming up, again, let me remind some of the witnesses that I've seen come in since the opening statement that we will adhere to the time limits that you have been given. Your entire statements will be placed in the record. You don't even need to ask for that. And if you would abbreviate your statements, make your main points orally and leave us time for questions, we would appreciate it.

Go right ahead, sir.

STATEMENT OF ARTHUR J. CORAZZINI, DEPUTY DIRECTOR, PROGRAM ANALYSIS DIVISION, GENERAL ACCOUNTING OFFICE, ACCOMPANIED BY LAMAR WHITE

Mr. CORAZZINI. Senator Packwood, Senator Danforth, I am Arthur Corazzini. I am Deputy Director of the Program Analysis Division at the GAO. I'm here today to discuss the results of a 1980 GAO study which assesses the potential benefits and effects of a national beverage container deposit law. I am accompanied by Lamar White, a member of our staff.

Any study of this subject must be based on certain assumptions about consumer and industry behavior because there has not been a 100-percent deposit system in this country in more than 40 years. For our study, we have assumed that all deposit containers will be returned at a 90-percent rate, that the container mix under a national law will be 50-percent refillable bottles and that there will be a temporary lull in sales growth. These assumptions have been borne out by continued experiences in Oregon and Vermont and new laws in Michigan and Maine.

Using these assumptions in our analysis, we arrived at the following conclusions. We found that both litter and solid waste would be reduced by a national law. This would result because many beverage containers which previously had been discarded would be returned for reuse or recycling.

Specifically, we estimated that the beverage container litter would be reduced by approximately 80 percent. This means that if container litter comprises 25 percent of all litter, there would be 20 percent less litter than without a law.

Solid waste would be reduced by about 4 percent by weight because of the increased reuse and recycling of beverage containers. The benefits of reduced litter and solid waste are difficult to express in financial terms. Some estimates have been made of reduced litter pickup costs and of the decreased pressure on landfills. The real social value of a reduction in litter is in the aesthetics of unlittered surroundings, a value which is difficult to quantify.

In addition to these positive results of a national law, several other effects would also occur. Some of these can be classified as further benefits of a national law, while others are seen as the costs of achieving the benefits of reduced litter and solid waste.

First, energy use in the beverage industry would fall, as would the use of raw materials. For example, we estimated a 33-percent reduction in industry energy consumption, or about 117 trillion Btu's.

Second, industries revenues would also increase because of unclaimed deposits and scrap material sales. Unclaimed deposits alone are approximated to run about $439 million above the no-law conditions, while recycling revenues are estimated to be about $265 million. These two revenue sources attributable to a national law total $704 million.

Third, a change to a 100-percent deposit containers would require industries to increase their storage facilities and labor to handle the four-fold increase in empty containers returned for deposit redemption. When this change was combined with the expected change in container mix, GAO estimated a first-year increase of $688 million in incremental industry costs.

That concludes my formal testimony, Mr. Chairman and members of the committee. We will be glad to answer any questions.

The CHAIRMAN. Both in 1977 and in 1980 in your study, you looked at the effect on jobs. Both times you estimated a net increase in jobs.

Would you address yourself orally to that again?

Mr. CORAZZINI. For both reports, Senator. In 1977, we estimated that there would be a net increase in jobs on the order of 20,000 to 40,000. And in 1980, it was again borne out that there would be a net increase in jobs on the order of 60,000. There would be some job losses in some parts of the industry and gains in others.

The CHAIRMAN. As you're aware in dealing with this subject, the argument of consumer costs is bantered around quite frequently. Can you address yourself to that?

Mr. CORAZZINI. The argument is raised in a couple of ways. I would venture that the argument is raised in terms of a possible increase in prices to consumer for the products purchased. It's clear that the law would necessitate some cost increases in manufacture and distribution of containers. Those cost increases may in some instances be passed along in the form of higher prices. Such higher prices are, in fact, part of the cost side of the equation. The benefits are in the form of reduced energy and resource consumption and in the form of reduced litter and increased aesthetics.

The CHAIRMAN. As I read your 1980 report, you pretty much conclude that the cost increase is a wash. Here I'm not talking about the actual deposits that you get back. I'm talking about the cost increase, and as best I read it, you pretty much think it's a wash.

Mr. CORAZZINI. That's correct. The incremental costs to the industry are offset by the incremental revenues to that industry.

The CHAIRMAN. Critics of your study indicate that you make a projection of energy savings, that you did not account for all the energy used in delivering beverage to the consumer, in picking up the empties and whatnot.

Would you address yourself to that?

Mr. CORAZZINI. The short answer to that, sir, is that we did and that the models used incorporate that part of the production cycle. I have copies of the report available with me today for those who are interested in checking that point, they may do that.

The CHAIRMAN. I've read the report and I know that the report says you did, but I want to lay this on the record so that when people are reading this transcript, at least if they're going to attack your report as not having considered all of the energy implications, you would say that you have.

Mr. CORAZZINI. Yes, sir.

The CHAIRMAN. Next is the argument on water use. On occasion, I think people are shading a bit what they mean by water use. But you address yourself to that because you say, and I'm quoting here in 1977, from mining through distribution, the 10-trip refillable bottles and aluminum cans use less than one-half of the water needed by one-way bottles and by metal cans. Is that still true today?

Mr. CORAZZINI. In fact, the 1980 report relies on information that was gathered and used in the 1977 study. So your statement is true today. There is, I think, some confusion over the term "water use."

We are referring to water use in the complete cycle—production, distribution, sales cycle. There have been some that have referred to water use at the point of filling. There is a difference at the point of filling. But overall, we believe that, in effect, this is a water-resource conserving measure.

The CHAIRMAN. And that's the only fair way to consider it. If you're going to talk about only filling, that's one thing. But that is not all the water that is used in producing cans or producing bottles or filling cans and bottles. If you're talking about deposit legislation, then you've got to consider the overall water use and not just filling up the bottle.

Mr. CORAZZINI. Correct.

The CHAIRMAN. Senator Danforth?

Senator DANFORTH. Yes; Mr. Corazzini, you've talked about energy savings. Have you broken that down to various types of energy, oil and coal?

Mr. **Corazzini**. No, sir, we have not. The report does not address that in detail.

Senator **Danforth**. It is my understanding that the savings would be in coal and that it would be maybe somewhat of a tradeoff between oil and coal; that is, that coal is used in the manufacture of aluminum, and oil is used in transporting bottles and cans from one place to another; therefore, the savings would be largely in coal.

Would that be true, do you think?

Mr. **Corazzini**. The report does not get into that level of detail. I would accept the notion that the savings may occur in one sector of the industry as opposed to another, but there are overall net savings.

Senator **Danforth**. Well, net savings, if we don't care about what people consume. That is, if there were more use of oil, less use of coal, and there were a net savings, that might be contrary to the national energy policy; isn't that correct?

Mr. **Corazzini**. I would want to think about the particulars of overall energy use.

Senator **Danforth**. I think you should. I mean, I think that the statement that we are saving energy and that that is in the national interest is a point that should be examined before we pass this bill because it may be that we're going to be using more oil, not less oil, and we do have an abundance of coal in this country.

I want to read you just the first two or three paragraphs from an article in the Hartford Courant, Sunday, August 31, 1980, entitled "The Consumer is Paying the Price of the Bottle Bill." Mr. Chairman, I would ask that this article be included in the record.

The **Chairman**. It will be included in the record.

[The article follows:]

[From the Hartford Courant, Aug. 31, 1980]

Consumer is Paying the Price of the Bottle Bill

(By Peter Cohn)

What does Connecticut's bottle bill cost?

For consumers who dutifully return the empties, the cost of soda in Connecticut is up more than 3 cents a bottle. And beer drinkers are now paying almost 7 cents more per bottle than before the bill became effective although only 4 cents per bottle of the increase appears to result from the new legislation.

Those who don't bother to return the old bottles pay even more for their refreshment, sacrificing the 5 cent return value.

For the retailer, bottlers, and distributors who long have lobbied against the law, the bill has been a massive bother, but its effects haven't reached to their bottom lines: the higher costs have simply been passed on to the consumer.

That doesn't mean that the higher prices have been accepted passively by all, because there are at least two ways around the state's steeper beverage prices. The first is borderhopping; buying beer and soda in bulk in neighboring states where the prices don't reflect the cost of the expensive return process. And the second is simply drinking less. For whichever reason, one distributor said his sales volume has declined by 15 percent since the bill took effect on Jan. 1.

In the first five months after the bill took effect, the cost of a six-pack of soda has gone from $1.69 to $1.97 because of the bottle bill. When the bottles are returned, the consumer is still paying 28 cents more. Based on average prices in New York and Massachusetts, the basic price of soda doesn't appear to have changed in that period.

Overall, the bill could cost Connecticut consumers up to $34 million in its first year, according to the American Can Co., which is still lobbying against the law. An industry backed study of price increases in Connecticut, Massachusetts and New

York shows price increases in the state ranging from 10 percent to 4 percent beyond those in neighboring states.

Based on a survey of supermarket beverage prices, the study found that a six-pack of beer in cans, not counting the deposit went up by 12 cents between December and May to $2.60 in Connecticut. Over the same period, a six-pack went up 15 cents to $2.38 in Massachusetts and by 16 cents to $2.35 in New York. Bottled beer prices were the same in all three states.

The prices do not incude the five-cent deposit or state sales taxes.

The average list price of a six-pack of a national brand soft drink rose from $1.77 to $1.97 here. In Masschusetts, the price of the same six-pack fell from $1.74 to $1.67 and in New York the price went from $1.87 to $1.93.

The price study was commissioned by the American Can Co. of Greenwich, which has long been a foe of bottle bills, and was conducted by a New Jersey research firm.

Smart shopping still pays off, the bottle bill aside. Last week, a major supermarket in Bloomfield featured a sale on major brand six-packs at $1.49, not incuding the deposit. At a store run by the same chain in Westfield, Mass., the same six-packs were not on sale and cost $1.89.

Beverage bottlers, distributors and retailers make no bones about their price increases in Connecticut. They say that consumers inevitably are going to pay higher beer and soda prices as businessmen pass through the sharply higher operating costs caused by the bill.

Distributors say they have had to add trucks, increase wages, and make substantial investments in can and bottle recycling machinery.

Retailers say they have had to hire new workers to process returned bottles and have had to set extra aside space for them.

And soda and beer makers continue to raise prices. There have been no price cuts due to lower container costs resulting from the use of refillable bottles or recycled metal cans, as some proponents of the bottle bill once predicted. Instead, like practically everything else, the cost of beer and soda has risen.

As an example of how the bottle bill has affected the beverage distribution business, Hartford Distributions Inc., which supplies Anheuser-Busch products and other beers, reports a dramatic increase in overhead. Jules Hollander, president of the company, said that he has had to buy 10 trucks at a cost of $350,000, invest $100,000 in a recycling facility, and pay substantially higher wages to his drivers in order to handle returned bottles and cans.

Those higher costs were passed on directly to customers, Hollander said, along with the 1-cent-per-container handling fee the distributor pays to the retailers.

Hartford Distributors has picked up more than one million cases of returns from its retail customers since the first of the year, although Hollander also noted that one side effect of higher prices has been a 15 percent drop in his business.

Hollander said he ships many of his bottles and cans to an Anheuser-Busch recycling facility in New Hampshire—and gets reimbursed only for the freight costs. The rest are processed in a Manchester recycling facility jointly owned by three area beer distributors. Hollander said that only the recycled aluminum cans bring enough on the market to cover the cost of processing. "The recycling at best will pay for itself," Hollander said. "But after all, you have to do something with this stuff, you can't dump it."

Much of the higher costs were for one-time investments in trucks and equipment, but Hollander doesn't expect that the price increases will slow. "We have to buy more trucks as time goes on; the handling costs will go up; and I'm sure that in future contracts, the union will be shooting for more money," he said.

At the retailing level the story is much the same. Retailers say that the 1-cent-per-container handling fee hardly covers their added costs, mostly in the form of increased payroll expenses for employes who take and process returns. So the extra is, again, passed on to the consumer.

Standford Cohen, president of Mott's Supermarkets Inc., which operates the Shop-Rite chain in Connecticut and Massachusetts, said labor costs at his stores have risen, with minimum increases of $250 and up to $900 weekly being added because of the bill.

That comes on top of the $5,000 Cohen said the company invested in each store for equipment such as cash registers and bottle crushers.

Mott's seems to be an attractive place for people to return the empties: Chosen said at some larger stores, Mott's has been deluged with returns, taking in twice as many bottles and cans as it sells. So the store has had to rent trailers to hold the overflow.

Cohen said not all of the higher costs of selling beer and soda under the provisions of the bottle bill have been passed directly to the buyers. Some of these costs, he said, have gone into the general overhead of the markets—and thus are passed along to buyers of all groceries.

Senator DANFORTH. What does Connecticut's bottle bill cost? For consumers who dutifully return the empties, the cost of soda in Connecticut is up more than 3 cents a bottle. Beer drinkers are now paying almost 7 cents more per bottle than before the bill became effective, although only 4 cents per bottle of the increase appears to result from the new legislation. Those who don't bother to return the old bottles pay even more for their refreshment, sacrificing the 5-cent return value.

Now I'm not sure that I understand that and I'd like you to explain it to me. It would seem that if we charged 5 cents and said, well, you get it back when you return the bottle, that would be a wash. But according to this article, it's not a wash and that the consumer of soda and beer is going to end up paying more than what he gets back in the return.

Mr. CORAZZINI. If I've heard the article correctly, there are two kinds of responses. One is that not everyone will return the bottle. And if you don't return the bottle, you don't get your nickel back.

Senator DANFORTH. But that's not what this article says.

Mr. CORAZZINI. If, in fact, costs to the industry rise, such as processing costs, and distribution costs; and if industry attempts to pass on those incremental costs in the form of higher prices and if those higher prices are validated in the marketplace, it is possible that there would be some sharing of the incremental costs between consumer and producer.

Now that article, I think, alludes to that rather complex set of happenings and would not be uniform across the industry or across particular sectors of any part or piece of the industry.

Senator DANFORTH. Would it be reasonable to expect that a bottle bill would not lead to a wash for the consumer, it would not just be a matter of collecting bottles and cans and taking them back and getting back the full value of what he paid?

Mr. CORAZZINI. You must consider that the consumer is a consumer in many areas. It may be that he would pay incremental prices for some beverages. There are other savings to the consumer that would also occur. For instance, the solid waste collection costs at the municipal level may, in fact, result in savings to the consumer in another form.

Senator DANFORTH. Do you think that the consumer would save money on this?

Mr. CORAZZINI. It's possible.

Senator DANFORTH. You don't really think that, do you?

The CHAIRMAN. Your time is up.

You may answer that question.

Senator DANFORTH. I thought you were going to let me get away with a rhetorical question.

Mr. CORAZZINI. I think that there are savings in other ways to the consumer. And, in fact, it may be possible that even the instance referred to savings would result.

The CHAIRMAN. Senator Gorton, you have no questions?

[Senator Gorton nods in the negative.]

The CHAIRMAN. Senator Kasten?

[Senator Kasten nods in the negative.]

The **Chairman**. I believe, Mr. Corazzini, I have no more questions, either. Jack, do you have any more?

[Senator Danforth nods in the negative.]

The **Chairman**. Thank you very much. Next, we'll take a panel: Mr. Peter Fletcher, chairman emeritus of the Michigan Highway Commission; and Mr. John Anderson, the deputy commissioner for the Department of Environmental Protection in Connecticut.

Again, gentlemen, your statements will be put in the record in total. You're free to proceed as you wish.

Do you want to go first, Mr. Fletcher?

STATEMENTS OF PETER B. FLETCHER, CHAIRMAN EMERITUS, MICHIGAN HIGHWAY COMMISSION; JOHN ANDERSON, DEPUTY COMMISSIONER, DEPARTMENT OF ENVIRONMENTAL PROTECTION, HARTFORD, CONN.

Mr. **Fletcher**. Thank you. I do observe your injunction, Mr. Chairman, members of the committee. My name is Peter B. Fletcher of Ypsilanti, Mich. I am here today to speak on behalf of our Governor, the Honorable William G. Milliken, who is an enthusiastic supporter of the legislation which has been adopted in Michigan and has already been described for you by Senator Hatfield.

I became interested in it as chairman of our State highway commission because I was thoroughly vexed with the idea that the motoring public paying its taxes on gas and vehicle weight, had to subsidize the beverage container industry because of the skyrocketing costs of picking up and returning the litter.

Michigan has now had its bottle bill for 3 years. It has been highly successful. One of the issues you have talked about here this morning has been highlighted because we continue to have the frustration of visitors from other States where they do not have deposit laws visiting Michigan and leaving that litter behind. We believe that the national legislation would help address this problem and benefit all of the States of our Federal Union and, of course, it would be in that great Federal tradition of providing an economic motivation or monetary incentive. That is certainly in the American tradition.

Despite the massive spending by the beer barons and soft drink moguls, despite the political hammerlock this industry has had on some public officeholders, reason and logic will prevail. People are fed up with tripping over bottles and cans. We recognize that sooner or later, we're going to tire of them hoisting off the expenses of this industries' anticonsumer lobbying efforts, tire of having the throwaway ethic forced upon us, and tire of using tax dollars to subsidize this so-called convenience habit.

I also believe that if you were to come and visit Michigan, you would see directly the impact that it has had and I especially urge that you talk to people who originally opposed the legislation, because of course, we now have many converts. As you indicated, Mr. Chairman, our Michigan experience would be the same. It was adopted originally by a 2 to 1 margin. All of our public opinion polls show that it is even more popular and would win by an even wider margin if it were to be placed on the ballot again. The beverage industry has already abandoned a frequently threatened effort to put it back on the ballot here in Michigan.

I also speak to the issue of the price of beer, which has been of some concern. You must remember in studying the history of Michigan, we are a noncompetition State. It is all controlled by the State liquor control commission. We do not even permit the advertising of the price of beer in Michigan. Therefore, it is very difficult to say that with this anticompetition overriding us, that the effect of the bottle bill has been to raise the price of beer. There has been an extensive investigation in Michigan of this by a grand jury. We are still awaiting further results of the question of whether there was in fact a conspiracy to fix prices.

But even if these increased costs were legitimate, our citizens are willing to pay them. They have decided that the conservation of energy and natural resources and a safe, clean environment and landscape are worth the price increase.

The Michigan Farm Bureau has been especially enthusiastic because we now no longer have the profusion of broken bottles, which represented a special hazard to livestock, who would consume them and then would, of course, perish as a result.

We also should remember that the Michigan law does not provide specifically for an accounting for approximately 10 percent of the containers which are not returned. They are not, therefore, reclaiming the deposit and, as a consequence, this of course remains in the beverage container industry coffers. There is approximately $20 million a year of this. Naturally, it's earning a nice, handsome return for them, just by leaving it on deposit in a financial institution.

I would suggest that in the Federal approach, that we have an accounting for this and allocate that money. I'm not suggesting that it would solve the budget deficit that you referred to earlier, but it might be a modest step in that direction.

We have two noncontroversial amendments which we have adopted in Michigan this year you may wish to consider on the Federal level. We are limiting the amount that a consumer can claim on any one exchange to $25. You would be surprised the enterprising young people who go out, again, in that best tradition of American capitalism, and regain these containers and take them back to earn the refund. The other would give the retailers the right to refuse containers contaminated with nonbeverage residues such as trash and cigarette butts. You have many references on the program in Michigan and the experience that it has provided. All of this can be summed up in just one very simple statement: It has worked handsomely in Michigan and I certainly encourage your affirmative consideration of it on the Federal level.

I will now yield to my worthy associate on the right.

[The statement follows:]

STATEMENT OF PETER FLETCHER

My name is Peter B. Fletcher, from Ypsilanti, Michigan. It is my pleasure to address you today on behalf of the Governor of Michigan, the Honorable William G. Milliken. I bring to you, however, my perspective as a private citizen with no ties to any interests but my own and the citizens of my state.

The Michigan "Bottle Bill" referendum, was passed by voters in 1976 by a two-to-one margin and went into effect in December 1978. Governor Milliken was an ardent supporter of the proposal; in fact, he signed the first petition to place it on the ballot. At the time, I was chairman of the Michigan Highway Commission. We were sick of paying sky-rocketing costs to pick up bottles and cans on our roadsides.

It was an unwarranted taxpayer subsidy of the beer and soft drink industry. The Bottle Bill directed these costs back to where they belonged, and I enthusiastically supported its passage.

Michigan has now lived with the Bottle Bill for three years. I would like to tell you it has been an unqualified success, but in all candor there have been two major problems:

(1) Travelers coming to Michigan are still trashing our state with throwaway purchased in less-enlightened states; and

(2) Travelers from Michigan are returning home from other states in shock, with stories of bottles, cans and pull-tabs blanketing roadsides, beaches, and parks.

In Michigan we need S. 709 to solve these problems and make our Bottle Bill perfect. We need it, but not nearly as much as the nation needs it. I will burden you with only a few statistics today; you have available numerous references which document Michigan's successful experience, including the General Accounting Office report of December 1980. Just keep this in mind—the people of Michigan love the Bottle Bill. Polls consistently show that if it were on the ballot again, it would pass by an even greater plurality and the beverage industry has abandoned a once promised effort to put it back on the ballot.

National legislation is inevitable. State by state or county by county it will happen. Despite massive spending by the beer barons and soft drink moguls, despite the political hammerlock this industry has on some public office holders, reason and logic will prevail. People are getting disgusted with tripping over bottles and cans everywhere they go. They are recognizing the tremendous waste of energy and raw materials resulting from use of throwaways. And sooner or later they will tire of paying for the industry's anti-consumer lobbying efforts, tire of having a throwaway ethic foisted upon them, and tire of using tax dollars to subsidize this so called "convenience"habit.

You could save us all a lot of time, money and aggravation by passing S. 709. It has been good for Michigan; it could be good for the nation. If you have any doubts, I invite you to visit our beautiful state, no longer scarred by this highly visible and dangerous form of litter. No cold statistics can possibly convey the real before-and-after picture of our state.

Bottle and can litter has been virtually eliminated. When out-of-state litter is excluded, beer and soft drink cans on Michigan's highways declined 97 percent by the second year of our law and beer and soft drink bottles declined 93 percent. For example, before the Bottle Bill, an average of 176.5 cans per mile accumulated in one month (August/September 1978). During the same month in 1980, the accumulation was only 27.3 cans per mile and 10.8 of those were from out-of-state.

Nearly all aspects of our experience have been positive. We have seen an average 6-percent reduction in the solid waste stream. Recycling centers have opened. Employment has increased. We believe energy is being saved, but such statistics are difficult and expensive to measure. Keep in mind that Michigan has little incentive to fund in-depth studies of the impact of the Bottle Bill. The public likes the law and it is here to stay. Why spend state funds to study a successful law that has solved the problem?

There is no argument that the price of beer has gone up in Michigan. But as your GAO report discusses, there are many factors to consider in that price increase. We have some of the worst anti-compeititon regulations on this industry in the nation; you cannot even advertise the price of beer in Michigan. And a cynical observer would have to question if the industry is increasing prices to make Michigan look bad; after all, they did waste several million dollars trying to defeat the law in 1976. But the Grand Jury is still out on that question of a conspiracy to fix prices.

Even if all the increased costs were legitimate, our citizens are willing to pay them. Perhaps they have an intuitive understanding of the real costs to our society of throwaways. They have decided that conservation of energy and natural resources and a clean landscape are worth a price increase, even an unjustified one.

I would recommend to you several amendments to S. 709. Despite a lot of initial grousing, Michigan retailers have adjusted well to our law and consumers have few complaints. Any costs retailers incur in handling returnables can be covered by the free market system as has occurred in Michigan. Providing two cents (up to 40 percent of the deposit) to the retailer cannot be justified.

If the Congress is insistent on paying off retailers, the money should be from the unclaimed deposit fund. We estimate that the beer and soft drink industry reaps around $20 million per year in Michigan from unclaimed deposits—bottles and cans lost, broken or discarded. Since no accounting is required, exact figures are impossible to obtain. This is simply a windfall profit to the industry and I strongly recommend this money be accounted for and allocated through an amendment to S. 709.

I would also suggest you consider two non-controversial amendments being made this year to Michigan's law. One would limit the maximum refund a retailer must redeem at one exchange to $25. The other would give retailers the right to refuse containers contaminated with non-beverage residues, such as trash and cigarette butts.

I have provided you with a list of references for more details on Michigan's experience. All those facts and figures can be summed up in one sentence—the Bottle Bill is working in Michigan.

The CHAIRMAN. Mr. Anderson?

Mr. ANDERSON. Mr. Chairman, thank you very much. For the record, my name is John Anderson, deputy commissioner of the Department of Environmental Protection of Connecticut. I am the past house chairman of the Connecticut General Assembly, house chairman of the environment committee when the bottle bill was enacted favorably, both by the house and by the general assembly.

I think the reasons that a bottle bill was needed in Connecticut are the same reasons that such a bill is now needed on a national level; however, since the passage of Connecticut's bottle bill, those needs, I believe, have become even more critical. Three of those areas that are critical are solid waste, resource conservation, and energy.

We're running out of landfill space very quickly. In Connecticut, 58 out of 169 towns are presently sending their solid waste outside of their own boundaries. The agreement was that 10 percent of a landfill is filled with one-way beverage containers.

We have, by passing the bottle bill, increased the length and life of our landfills in this State. I think the inconvenience of taking back a bottle or a can is offset by those who believe that we were wasting a national resource in glass and in metal.

Energy, I think, is another area. Not only are we saving natural resources and materials that make up bottles and cans, but also the energy to convert them. In other words, it's cheaper to wash a bottle than to make a new bottle and it's cheaper to make a new bottle with recycled material than starting from scratch. Or a can.

Litter—I think that we were extremely pleased in the State of Connecticut to see that no full-time staff than was already in the department was put on to administer the bottle bill. We do not have a group that is going out presently and policing areas because we have not had that kind of problem. We have had calls and usually, either a letter or a call back to that retailer, be it a supermarket or a package store, a liquor store, as it's called, would correct the problems.

Parks—in the packet that I'm leaving with you, there is a letter or a memo from the head of parks in the State of Connecticut who claims the enormous reduction of not just the bottles and cans in the State parks, but also of other litter. What he is claiming is that it has made people recognize that litter, even though it is not bottles and cans, belong in a basket. And that's where it's going.

He did point out, though, since the State of Connecticut is so small, we get an awful lot of people from out of State on our bordering areas, and that during the week, in our parks, they'll be clean of bottles and cans. But on the weekend, when people will come in from out of State, that's when we have to clean up the cans and bottles. I think that's extremely important for the reason that we're here today. A national bill would overcome that. We'd be able to get uniformity. I think each State would be able to recognize the solid waste problem of the other State.

I also have included in the packet that I left with the committee a survey that I took just before I left office. The letter was sent out November 4, 1980, and the returns came in by November 25. It went to all 169 towns. Of the letters that were sent out, 49 towns and cities strongly support the bottle bill. Eight further towns and cities support the bottle bill and also wish to see it expanded to require all beverage containers to have a deposit. And five towns who were skeptical had received pressure from retail stores. They were not for repealing the bill, but they did think that we could do more with redemption centers.

And since that date, there has been more redemption centers started. So I think that has been overcome.

I think the public perception, and I think that this is important—I had always considered it in the legislature a people's bill. It was fought for for 4 years while I was there and each year I could see it building. How many supporters were for it this year, there were more the next year and the year after that, until finally, the bill was passed because it was a bill the people wanted.

I think that's extremely important because it's one of the few bills that people can understand. It's a bill that when people are out bicycling or jogging or driving, they can see the cans and bottles on the road. A simple bill like the bottle bill cleans that up in a very, very short time.

[The statement follows:]

STATEMENT OF JOHN W. ANDERSON, DEPUTY COMMISSIONER, DEPARTMENT OF ENVIRONMENTAL PROTECTION, STATE OF CONNECTICUT

The reasons that a bottle bill was needed in Connecticut are the same reasons that such a bill is now needed on a national level; however, since the passage of Connecticut's bottle bill, those needs have become more critical.

Many questions arise concerning the effects of the "bottle bill" in Connecticut. Some conclusions are obvious, however, and the following should provide a general picture of the effects of the deposit law as viewed from the Department of Environmental Protection.

1. SOLID WASTE

Connecticut is faced with critical problems in the disposal of solid waste. While the volume of waste has been steadily increasing, the space available for disposal is rapidly being depleted. Although it is certainly not a cure-all for the state's solid waste problems, the deposit law has undoubltedly had an effect on the volume of waste reaching landfills. A survey of eight key transfer stations for the first six months of 1980 compared with the same period in 1979 showed one area with a two percent increase, one area with no change and six areas with reductions of from four to 23 percent.

2. RESOURCE CONSERVATION

Wholesalers and retailers are all pointing out the very high volume of containers being handled. Although they offer it as a complaint, they provide evidence that the law is achieving its objectives. Ton after ton of aluminum, steel and glass is being reused to produce new containers instead of requiring all new raw materials. Even the plastic, although not reused for containers, is being recycled and used in the production of plastic filler.

3. ENERGY

It has been demonstrated that the recycling of beverage containers requires less energy than the processing and transporting of raw materials used in the initial production of the containers.

4. ECONOMICS

The price of beer in all types and sizes of containers has increased since January 1, 1980. The price of almost everything else we use has also increased during the same period. Without a full audit of the companies establishing the prices, it is impossible to evaluate what portion of the increase is actually based on cost increases caused by the deposit law. It is also impossible to determine if returns from the sale of recyclable materials and from unredeemed containers are being used properly to offset handling costs or are being treated as windfall profits.

In those cases where a conversion has been made to refillable containers, in the soft drink area, savings have been realized and bottlers have been able to at least hold the line on prices if not provide for reductions.

5. JOBS

The fund established to provide compensation for dislocations brought about by implementation of the deposit law was seriously depleted because fund monies were distributed as supplements to Unemployment Compensation payments regardless of the length of a shut-down or lay-off. Thus, if the Labor Department determined that a temporary lay-off resulted from the deposit law, those affected received extra compensation. The number of permanent displacements, which can be directly attributed to the law, is negligible. As a result the General Assembly repealed the Dislocation Fund in the 1981 session without any opposition or protest.

On the other side of this question, a very substantial number of jobs have been created in the handling of empty containers. These jobs are generally lower paying and can be filled by persons with minimum skills and training. Some of those who oppose the law maintain that jobs have been lost and costs have increased. These two arguments are incompatible, and if there have been increases in costs, some part must represent labor costs.

6. LITTER

There seems to be little or no disagreement on the impact this law has had on litter in public places. Although the evaluation is subjective, nearly everyone with any basis for an opinion agrees that highways, parks and, to some extent, private lands are neater than at this time last year. This reflects the high visibility of cans and bottles to a greater extent than their contribution to the total litter picture.

In summary, no one denies that implementation of the deposit system has created some inconvenience for most Connecticut residents. It has led to some price increases in those situations where conversion to refillable containers is impossible or for whatever reasons has not taken place. There may possibly have been slight business losses to neighboring states but it should be recognized that all of our border states had a price advantage in beer sales before the deposit law was passed.

To offset these negative factors, there has been an obvious reduction in litter and the state has contributed substantially to the conservation of natural resources. A large number of jobs have been created for persons with little or no experience. The net impact on energy consumption has been favorable and, most important, there has been a reduction in the volume of solid waste reaching our landfills.

Mr. ANDERSON. Something was mentioned before on cost. I would like to get to that. But before that, at the same time that the bottle bill was passed, an antilitter tax was passed in the State of Connecticut. That's exactly what that bill was, a tax. It was supposed to address all litter in the State. But once the bills went out to the retailers and wholesalers and manufacturers of what it was going to cost them, the calls came in like you wouldn't believe. That bill was the first bill that was repealed this year in the general assembly.

The CHAIRMAN. I was struck by that because Connecticut is one of the few States that had that dual system for a while, and you obviously could have chosen to repeal one or the other.

Mr. ANDERSON. Not even for a while. That bill was not going in until the bottle bill went in, and when the actual bills to the manufacturers went out, it was repealed right after that. We didn't collect a nickel on it. The people didn't want it and it was kind of the industry's answer to the bottle bill which was not acceptable when the people realized that there was going to be an additional tax.

The **Chairman**. Could you address yourself to the costs, the consumer costs?

Mr. **Anderson**. Yes, sir. Costs are, I think, an argument that try to be oversimplified by those that are against the bill and that really are not a very simple problem to address. Let me explain why.

Let's take Coca-Cola or soft beverages. We're talking about presenty, a 2-liter plastic bottle in Connecticut you can get for 99 cents. That price was never cheaper than that. But that was not because of the bottle bill; it was a change in marketing. They went from a glass or a metal container into a plastic bottle with more beverage in the bottle. And that's what reduced that price.

So we can't either take blame or credit with the bottle bill for doing that. But on beer, it's a different situation. The beer in Connecticut is higher, for instance, than a bordering State like New York and for four very good reasons, or four reasons, not very good.

The first is that the price of beer is set by the brewery that sends that beer in. And the Connecticut beer wholesalers, informed me that beer costs between 70 and 80 cents a case more in Connecticut than it does in New York. That is, again, set by the brewery. We have no control over that whatsoever.

Second, our State sales tax is higher in Connecticut than, for instance, New York. So that adds an additional cost.

Third, the transportation is higher because we have no breweries. We did before the throwaway bottles came in. But all those breweries are gone.

So every bottle of beer or can of beer that's brought into the State has to be transported in and that adds additional cost.

And last, but most important, Connecticut has a minimum markup law. What that law says is that after you add up all of your expenses, you must add 21 percent for your profit. It is against the law to sell it for anything less.

So in other words——

The **Chairman**. Is that law constitutional?

Mr. **Anderson**. It was just repealed this last session and it will go into effect January 1, 1982. But that was on the books for many, many years and it was to protect the mom and pop stores.

Anyhow, they had no choice but to charge that extra 21 percent. So on a border State like New York who is leading with something like a loss leader or a sale of some type, there is no way that our people could compete with that.

So what I'm saying is that the cost of beer in Connecticut was more before the bottle bill and it's more after the bottle bill, but not because of the bottle bill.

I think the interrelationship between energy, the environment, and the economy must be faced. I think the difference between living wastefully and living well must also be faced. Landfill life is being extended. Energy and natural resources are being conserved. And without argument, litter has been dramatically reduced in Connecticut. I think, if you look at every State that has passed the bottle bill, there was an amendment to repeal our bottle bill and it lost by a vote of 121 to 20. That it is very popular in those states that have passed it. I think it's just a matter of time until enough states pass it or until the Federal Government does the job.

The **Chairman.** That is a fact that continually amazes me, in every State that has the bottle bill. This is not 51-49 support; there is just overwhelming support. The opposition is so miniscule as to almost be insignificant.

Mr. **Anderson.** Absolutely. And it's so popular with people. I think the people want this bill. If you go to Vermont or Connecticut, the roads are clean. For some of the sister States, that is not true.

The **Chairman.** Mr. Fletcher, let me ask you about employment in Michigan as a result of the deposit bill. You have heard the arguments that are made that it is going to cost jobs or certainly, even if it doesn't cost jobs, it will result in a realinement of low paid nonskilled jobs that are gained and high paying skilled jobs that are lost.

Can you comment on that?

Mr. **Fletcher.** Yes. Michigan certainly, of course, has intense unemployment problems, but they do not relate to our bottle bill. We have seen a net increase. We have also seen that the breweries, the ones who are leading the fight, not only are making more money in Michigan; they are busy acquiring breweries from other States where they do not have a deposit law.

So there simply is no basis for the argument that it has created unemployment problems in Michigan.

The **Chairman.** Senator Danforth?

Senator **Danforth.** How many States have bottle laws now?

Mr. **Fletcher.** What is it, six?

The **Chairman.** Seven, I think.

Mr. **Anderson.** Seven now, yes.

Senator **Danforth.** When was the Michigan law passed?

Mr. **Fletcher.** The Michigan law was adopted by initiative in November 1976; it actually went into effect in December 1978.

Senator **Danforth.** And how about the Connecticut law?

Mr. **Anderson.** It was passed in 1978 and went into effect January 1, 1980.

Senator **Danforth.** When was the first one passed; do you know?

The **Chairman.** Oregon.

Mr. **Anderson.** Oregon, that's correct.

The **Chairman.** Ours has been in effect for 10 years now.

Senator **Danforth.** So in a decade, seven States have done it; is that right? And it's very popular? State legislators, do they like to do popular things?

Mr. **Anderson.** I know some who were elected on that issue.

Senator **Danforth.** I think it's a great issue for a candidate for State legislature and if I ran for State legislature, I may well support it. I'm not in the State legislature.

Mr. **Fletcher.** But I think we have to be realistic, Senator. We've had many years for this to be accomplished and it just doesn't seem to get the push in many of the areas that it should. Let's face it, the opposition is very effective in its lobbying. That's why I think that a Federal approach to this could solve so many of the problems.

Senator **Danforth**. That is a standard argument for us doing an awful lot of things. This is clearly desirable. Anybody who looks at it could say, whatever it is is clearly desirable, and therefore, let's do it in the fastest way we can. That's here in Washington.

You know, we can sometimes move like lightning; sometimes not.

But certainly, it's easier, and quicker to get Congress to do it rather than to have to wait for each State. And therefore, that's the reason for Congress to do this.

Mr. **Fletcher**. I think that the uniformity argument, though, certainly has merit. If I were in the bottling business, I would be looking for that.

Senator **Danforth**. You know, I want to say this to you, and I've heard your comments about the hammerlocks and whatnot. Maybe the bottling industry should want it, does want it, doesn't want it, Mr. Coors wants it. I don't know. I don't particularly care.

But the fundamental question, it seems to me, is not who's got a hammerlock on whom or who's putting on the pressure or even what's popular, what isn't, what's trendy today or tomorrow. But is there anything in this country really left for State and local governments to do? I mean, is there anything that we should let them do, or, if it's desirable, doggone it, come to Washington. Why, we can do it for you. We'll take care of that problem for you. And we'll even figure out some reasonable argument for national policy to accomplish the objectives.

I really think that that's the basic question. My first reaction, just emotionally, to the idea of a bottle bill is I'm for it. And if I had to vote for it in Missouri, I think I would. As I said earlier, I've got a farm. I love it. I love the country. I'm a fisherman. I hate to see bottles and cans. Gosh, it makes me mad when I see it. But it just seems to me that there is an even more important principle than anything that has been discussed so far. That's the whole question of where are decisions made in this country? What is the role of the Federal Government?

I think that so often, people say, well, he's antienvironment. Why, he's against the EPA. That's ridiculous. You know, air, water, they float from State to State. It's all interstate. This isn't. Frankly, it isn't. I mean, despite the fact that somebody in New York might buy a bottle and carry it into Connecticut, that really is not the nub of the issue.

I think that so often, in an effort to get something done, we just lose sight of the relationship between the Federal Government and the rest of the country.

Gosh, when I was in State government—I spent 8 years in State government—I never thought that we were just a bunch of rubes in Missouri and that Washington had a monopoly on all of the wisdom in the world. I never believed that for 1 minute. I always thought that we should have at least some responsibility to do something, even if it's wrong.

It strikes me that the aesthetics of the State parks in Connecticut is a wonderful, wonderful point. But that should be something that the States should be responsible for, as it is in Connecticut. You passed the law and it's a popular law. There should be some area where you're just not running to us and saying, oh, please, you do it.

Mr. ANDERSON. Senator, the only thing that I can say, if you dislike seeing those bottles and cans now, the only way that something is going to happen is if you do something about it.

Senator DANFORTH. If I do something about it?

Mr. ANDERSON. He'll stop throwing bottles and cans.

Senator DANFORTH. No; but I'm serious. If I do something about it in Washington, or if my State legislator does something about it?

The CHAIRMAN. Senator Kasten?

Senator KASTEN. Thank you, Mr. Chairman. I think the fundamental question here is not whether we've got a problem; it is how to solve this problem. It seems to me that the two choices are working toward recycling, where we're going to be sure to recognize the overall problem, or try to pick on one particular aspect of the problem—the bottles and cans.

I am proud that we in Wisconsin tried to go in the other direction. One time Connecticut was trying to go into the other direction also, from my understanding. Didn't you have a solid waste recycling authority? At least there were some people who were setting up a solid waste recycling authority. I worked on that when I was in the Wisconsin State Legislature. I don't know if Connecticut ever got anywhere. Did it?

Mr. ANDERSON. We have a Connecticut Resource Recovery Authority, and they chose in Bridgeport some technology about 9 years ago that was not proven. And as a result, $54 million went into that project and it never worked.

So, you know, recycling, I agree, is part of the problem—I mean part of the solution. But there's an awful lot of iffy things.

Senator KASTEN. Well, it's just the opposite in my State. The deposit legislation is a possible part of the solution. Recycling, in the end, is part of the whole spaceship earth idea that we're not really throwing anything away.

Mr. ANDERSON. They're all pieces to the puzzle.

Senator KASTEN. Overall recycling is a solution. You can pick off a little part of it if you want. It's my understanding in Michigan, at least recently, that you didn't have any effort toward statewide resource recovery recycling efforts. You just picked up bottles and cans. Is that right?

Mr. FLETCHER. Yes; that is correct.

Senator KASTEN. Why is it that you would decide that plastic doesn't make any difference? Why do these little containers that the Big Mac hamburgers come in not make any difference? Why are you not concerned about the gallon or half-gallon containers that milk and Kool-Aid and orange juice or hamburgers come in? Why would you just pick out one sector and one group of retailers?

Mr. FLETCHER. We had difficulty in Michigan getting the legislature to accept many of the concepts that we've been discussing here this morning. As a consequence, we had to do what we have in Michigan strictly by initiative petition. In order to accomplish that, we had to keep it, I think, streamlined, simple, direct.

The containers we were having the greatest difficulty with were the bottles and cans in the industries that I have identified. So that's what we limited it to. I agree that there are problems from the others. We tried to do it on the basis of those which last the longest when they're cast aside.

As a consequence, we devoted our effort to the bottles and cans, and they also represented the terrific percentage of the problems that we were having as far as roadside litter is concerned.

Senator **Kasten**. Do you have any idea how long a plastic bottle that contains, let's just say, orange juice, how long that plastic bottle lasts when set aside?

Mr. **Fletcher**. No; I do not.

Senator **Kasten**. Practically forever, longer than anything except aluminum.

Mr. **Fletcher**. Well, for some reason, possibly because Michigan is far enough away from the citrus source, we did not have the trouble with those containers that we did with beer and soft drinks.

Senator **Kasten**. I hope you're not blaming our travelers from Wisconsin traveling to Michigan who are trashing your State.

Mr. **Fletcher**. Never. We're delighted to have them there, but we do notice that problem.

Senator **Kasten**. Purchased in less enlightened States.

Mr. **Fletcher**. You will notice that I omitted that in my comments orally.

Senator **Kasten**. I travel back and forth from Michigan to Wisconsin, particularly upper Michigan, when I'm up there skiing or hunting. I've also had a chance to travel a little bit in lower Michigan. Frankly, I don't know what you're saving in the cost of cleaning up your highways, but I don't see a significant difference between the highways in Wisconsin and the highways in Michigan.

The thing that concerns me is if you take the bottles and the cans out of the recycling effort, you start to make it much less cost-efficient. In other words, those are two areas where we seem to have technology to recycle and reuse, to separate out and resell. If you take the two most profitable recycling items out, it becomes much more costly to deal with anything, except for the corrogated board and one or two other kinds of things. newspapers.

But if we're looking toward a mix of going toward total recycling, it seems to me that this might be nice and easy for State politicians. Jack's not here, but I didn't fight against bottle bills; I fought in favor of recycling legislation. I feel strongly that you've got to keep the whole thing together because what you're doing is separating out the more profitable parts and the part where the technology is up to speed, especially in metal cans.

Mr. **Anderson**. How would you take the glass out of the recycling operation?

Senator **Kasten**. What do you mean? You're taking it out by——

Mr. **Anderson**. If your garbage is coming in and there's glass in that garbage, how do you get the glass out of the garbage, Senator?

Senator **Kasten**. There are all sorts of different kinds of separating techniques.

Mr. **Anderson**. I wish you'd tell us one because there is none on the market that we've been able to institute and that would work in our resource recovery operation. And that's why they came out very strongly for the bottle bill.

Senator Kasten. Are you aware of the fact, though, that the metal containers are the only ones that didn't sell?

Mr. Anderson. I wasn't talking about metal; I was talking about glass.

The Chairman. Go ahead.

Senator Kasten. I want to also explore the economies. You weren't accusing Wisconsin residents of trashing your State, then. I was happy to hear that.

Mr. Fletcher. We're delighted to have Wisconsin residents spend their money in Michigan.

Senator Kasten. I was also interested in the figures that Mr. Anderson, if I understood you right—the reason that you said that your problem was out-of-State was because you had more litter on the weekends when more out-of-staters were in the parks. Is that right?

Mr. Anderson. Yes. According to our figures.

Senator Kasten. Were you checking those parks 2 years ago before you had this bottle bill?

Mr. Anderson. Then everybody was littering.

Senator Kasten. But has there been a dramatic change in the amount of litter in the parks on weekends?

Mr. Anderson. Absolutely; yes.

Senator Kasten. In Wisconsin, on weekends, there's more litter in the parks because more people use the parks.

Mr. Anderson. No, we're talking about that litter which is throwaway, which is not deposit.

Senator Kasten. So you don't have any more McDonald's Big Mac containers on the weekends than occurs during the week?

Mr. Anderson. We don't have any McDonald's in our State parks.

Senator Kasten. And you don't have any more other kinds of litter at all?

Mr. Anderson. Well, what the——

Senator Kasten. It seems to me that litter goes up on weekends, no matter if it's in-State or out-of-State.

Mr. Anderson. No, I think you've missed the point which I was trying to make; that 65 percent of the people who come into the park on weekends are usually from out-of-State. That we check by license plates coming in. The litter is much greater because of the bottles and cans that come in with those people.

During the week, when those people do not come into the State park, we don't run into that.

Senator Kasten. But you feel that you have roughly the same number of people in the parks on a Saturday and a Sunday than you do on a Tuesday or Wednesday?

Mr. Anderson. I would suggest probably not, no.

Senator Kasten. I would suggest probably the litter is proportion to the number of people using the parks.

Mr. Anderson. All I can do is tell you what the head of our parks says.

Senator Kasten. I understand that the Connecticut Department of Labor set up a fund for people who were thrown out of work by the effect of this bill?

Mr. ANDERSON. No, really, it's a dislocation fund that was repealed in this past session.

Senator KASTEN. But you began with the premise that people would lose their jobs as a result of this legislation and had to be compensated; is that right?

Mr. ANDERSON. No. To be perfectly honest, it was an amendment that was added in the Senate because they needed the votes to pass the bill.

Senator KASTEN. Well, I don't know how it got there.

Mr. ANDERSON. I'm trying to be honest about it.

Senator KASTEN. Yes. In order to pass the bill, someone recognized that people were going to be thrown out of jobs because of this bill. It said that people who were thrown out of jobs are going to be compensated by the taxpayers somehow.

Now evidently, this fund, however it was figured out, was deficient and roughly six times as many people thrown out of work as a result of this bill, at least qualified for this fund, as you had anticipated initially. Is that right?

Mr. ANDERSON. The only thing I can tell you is that the fund was abused and it was repealed for the simple reason that—and no one, even Labor, disputed or fought for the dislocation fund, that it was something that was tacked on and used for 1 year and then repealed.

Senator KASTEN. The fund was overspent by six times.

Mr. ANDERSON. I have no idea. Maybe you have figures that I don't.

Senator KASTEN. I don't. I'm asking.

Mr. ANDERSON. Where did you get the six then?

Senator KASTEN. I was told that it was six times greater than anticipated.

Mr. ANDERSON. Well, whoever told you, I wish they'd speak to me.

Senator KASTEN. I shouldn't assume from that that six times as many people were thrown out of work as a result of this bill than you had anticipated. Roughly the same number were thrown out of work as you had anticipated?

Mr. ANDERSON. I don't think what you're considering are the jobs that were made.

Senator KASTEN. That's the other side of the equation and I know nothing about that.

Mr. ANDERSON. Right.

Senator KASTEN. But six times as many people were thrown out of work as a result of the bill in Connecticut as you had anticipated; is that a correct statement?

Mr. ANDERSON. No, because we didn't come up with a figure that we had anticipated. There was no figure that came forward from the legislature on that.

Senator KASTEN. You don't have that right now, but if you could provide the committee with some statistics on that, I'd appreciate it.

I understand that the National Retail Tracking Index from Connecticut beer prices were 14 percent higher in 1980 and that soft drink prices in Connecticut were at least 17 percent more than in Massachusetts and in New York.

Now in your testimony, you said that the reason that that happened was because of State sales tax, because of minimum markup law, and location of breweries. Were there any new breweries located in Connecticut in 1980 or were there any breweries that closed in Connecticut in 1980?

Mr. **Anderson**. The last one that closed was in 1978; that was Hull's in New Haven. There has not been another one that has either started or——

Senator **Kasten**. Has the minimum markup law changed significantly?

Mr. **Anderson**. It's repealed as of January 1, 1982.

Senator **Kasten**. And that would make Connecticut more competitive.

Mr. **Anderson**. Absolutely; yes.

Senator **Kasten**. Has the State sales tax, which you said that in Connecticut was much higher than the other States, changed?

Mr. **Anderson**. No.

Senator **Kasten**. Well, how would you explain 17 percent more than in Massachusetts and New York and 14 percent higher, if either the location of the breweries and the minimum markup or the State tax, which you said were the reasons, hadn't changed during the time that the bill was in effect?

Mr. **Anderson**. OK. I think, one, there's no question that we pay more than our surrounding States. The minimum markup certainly adds to it. I don't think that there was any question that——

Senator **Kasten**. These are relative figures in terms of increasing price over the time, not the gap.

Mr. **Anderson**. When the breweries go up with their price, you tell me something that's going down. I mean, I'm sure it went up in all States.

Senator **Kasten**. My figures say 17 percent more than in Massachusetts and New York. I think it probably went up in Massachusetts and New York and in Connecticut.

Mr. **Anderson**. Whose figures are they?

Senator **Kasten**. They were provided to me and my staff. I just wanted to make sure that you understood that we were right——

Mr. **Anderson**. I don't think you are. I would want to see proof of those figures, to be perfectly honest, Senator.

Senator **Kasten**. You didn't have breweries moving out, you didn't have sales tax changes, and you didn't have any change in the minimum market law. So the three reasons you gave for higher prices——

Mr. **Anderson**. But we did get higher prices from the brewery and that's nothing that we have any control over. They set the price and send it in and we either take it or we don't drink beer.

Senator **Kasten**. OK. Maybe we can look at the prices, but just so you understand that I'm concerned about the difference between those surrounding States. I don't care if all the prices have gone up.

Mr. **Anderson**. Sure.

Senator **Kasten**. Wisconsin prices have gone up, too. I just wanted to say, Mr. Chairman, that I think that this kind of legislation is a stopgap, shortsighted solution. Even in Connecticut, they recognize some economic problems. We've been fighting for overall waste recycling, solid waste recovery in Wisconsin. It's been spotty. It's been tough. We've got the Madison recycling center. We've got one in Milwaukee. Miller Beer is now collecting something like 34 million pounds of aluminum cans. We've got a number of smaller communities that are working with overall recycling, including paper, fiberboard, whatever.

It's my strong feeling that we ought to, before we jump into any kind of bottle bill or deposit bill, that we ought to look at the overall problem and by looking at the overall problem and addressing it, which is clearly more difficult than just sticking a tax on a can or a bottle, but by addressing the overall problem, we're going to be better off in the long haul.

This is a stopgap solution and, in fact, passage of a bottle bill has the effect of stopping momentum for the overall recovery legislation, which I think all of us want and need to work for and wish to support.

Thank you.

The **Chairman**. Gentlemen, I have no more questions. Thank you very much for taking the time to come.

Mr. **Fletcher**. Thank you.

Mr. **Anderson**. Thank you.

The **Chairman**. We will now move on to a panel of State and local representatives: Thomas White; Neil Sampson; Norman Steisel; and Clarence Mitchell.

Would you gentlemen like to go in the order that you're listed on the witness list? Is that satisfactory?

Mr. **White**. Sure.

STATEMENTS OF COUNCILMAN THOMAS X. WHITE, ON BEHALF OF THE NATIONAL LEAGUE OF CITIES; CHARLES BOOTHBY, EXECUTIVE SECRETARY, NATIONAL ASSOCIATION OF CONSERVATION DISTRICTS, WASHINGTON, D.C.; NORMAN STEISEL, COMMISSIONER, DEPARTMENT OF SANITATION, CITY OF NEW YORK; CLARENCE M. MITCHELL III, PRESIDENT, THE NATIONAL BLACK CAUCUS OF STATE LEGISLATORS, WASHINGTON, D.C.

The **Chairman**. Mr. White? Councilman White?

Mr. **White**. Thank you, Mr. Chairman. My name is Thomas X. White. I'm a city council member from Greenbelt, Md. I'm testifying this morning on behalf of the National League of Cities, which represents directly and indirectly some 15,000 cities, ranging in size from as small as Redmond, Oreg., to as large as New York City.

We are pleased to testify for NLC this morning in support of S. 709, the Beverage Container Reuse and Recycling Act, and to work with the committee in assuring successful passage of this legislation.

In deference to your request, Mr. Chairman, I will depart from our written statement which you will receive and I will try to emphasize the major points of the league's testimony.

The **Chairman**. I would appreciate it. We are going to start voting at noon and I'm hoping to be able to finish this hearing as close to that time as possible. Go right ahead.

Mr. **White**. For the past several years, as long as my memory prevails, the National League has had in its national municipal policy support for a national beverage container deposit legislation. This originates in the policy committee of the league, affirmed by a resolutions committee and every year, at our Congress of Cities, that policy is adopted by all of the delegates present.

So it has had that broad support of the league for as long as my memory is intact.

The major reasons why the league supports legislation such as the national approach which this legislation has are thus. The preemption—and it's ironic that the league would support legislation which seems to preempt local initiatives—but we do this because we're already preempted from a legal and practical standpoint. When cities want to enact a beverage container deposit legislation, they are fraught with all sorts of legal and practical obstacles to such an action.

A neighboring community of mine, Bowie, Md., enacted such a law, had it carried all the way to the court of appeals in the State of Maryland, but had been hampered in the implementation of that legislation because the surrounding communities did not have similar ordinances; therefore, the only thing the law obtained was to the detriment of Bowie merchants.

So from a practical standpoint, unless a national approach is enacted, the inconsistencies and the problems of one jurisdiction enacting beverage container legislation when other jurisdictions do not become insuperable.

Of particular concern to municipalities are the solid waste problems. It's been estimated that about half of the cities in the United States are nearing the end of the useful life of their landfills. It's an impending crisis, you might say, in terms of solid waste disposal and the use of landfills in the United States.

This legislation would help to alleviate that problem to a certain extent.

The political problems associated with landfills are great because no neighborhood wants to have one near its community. The cost, the political problems, and the technical problems associated with landfills are great and they are increasing. This legislation would help to alleviate that.

From a technical perspective, cleanup of shattered glass and crumpled beer and soft drink cans is exceptionally difficult, but it's a local responsibility. And because the litter represents both a health and a safety danger to our citizens, we have to spend municipal funds on this increasingly difficult cleanup task.

Because the litter detracts so much from the clean appearance of our parks and roadsides, not picking it up would have a negative impact on property values. A bottle once shattered on a city street is many times more expensive to retrieve and dispose of than one which is returned and refilled time after time.

As cities construct more resource recovery facilities, it will increasingly be important that we have the ability to manage the solid waste stream. These new technologies will require both volume reduction and source separation of materials that are not compatible with the recovery process. It makes almost no economic sense from a cost-benefit viewpoint to process materials as municipal solid waste when they can be reused and recycled in a separate, less expensive, and more efficient process.

To conclude, Mr. Chairman, we have believed for some time in measures to reduce beverage container trash at its source. Once a container is purchased, its actual cost to the consumer and to municipalities has only begun. And without question, its cleanup and disposal cost is rapidly surpassing the original purchase price.

The CHAIRMAN. I'm going to have to ask you to wind down because I've got to move on with the rest of this group this morning or we won't get done.

Mr. WHITE. I will conclude by saying that we support the legislation wholeheartedly.

[The statement follows:]

STATEMENT OF THOMAS X. WHITE COUNCIL MEMBER, GREENBELT, MD., ON BEHALF OF THE NATIONAL LEAGUE OF CITIES

My name is Thomas X. White, City Council Member from Greenbelt, Maryland. I am testifying this morning on behalf of the National League of Cities, which represents, directly and indirectly, some 15,000 cities, ranging in size from as small as Redmond, Oregon, to as large as New York City.

I am pleased to testify for NLC in support of S. 709, the Beverage Container Reuse and Recycling Act, and to work with the Committee in ensuring successful passage of this legislation.

It may appear ironic that NLC would appear in behalf of legislation which would preempt inconsistent state and local beverage container laws and regulations. Our members, however, support this provision, for, in large measure, cities are already preempted both in a practical and a legal sense.

From the practical perspective, if a city were to attempt to impose a deposit requirement on the sale of beverage containers, it would create an incentive for consumers to purchase beverages outside the city boundaries. Rather than helping to achieve a goal of less container waste, we would succeed merely in adversely affecting our own city merchants. From a legal standpoint, any local enactment of legislation to promote the reuse and recycling of materials and to reduce the amount and type of materials entering the solid waste stream would create equal protection and commerce clause problems at both the state and federal level.

Consequently, Mr. Chairman, we are, for all intents and purposes, already preempted. We would like to see that preemption be positive, such as the approach you have cosponsored.

For cities, there is a growing importance in support of this legislation. You have heard and read already of the positive benefits in terms of energy conservation, resource recovery, and reduction of solid waste. You will hear today from other witnesses with regard to employment benefits and economic benefits.

From a city perspective, we have a more specific, albeit related concern. Beverage containers contribute over eight million tons to the annual stream of municipal solid waste. Solid waste disposal has become a major municipal problem—politically, financially, and technically.

Everyone is opposed to litter, of course. Everyone at the local level understands and supports the development of landfills to dispose of solid waste—landfills somewhere else, since no one in a city wants the landfill to be in their neighborhood. In the Washington metropolitan area, political controversies and court litigation with regard to landfill sites have mushroomed in the last few years. Any means to substantially reduce the solid waste stream, such as in S. 709, will help to alleviate some of this unnecessary pressure.

Financially, landfills pose a series of negative consequences for municipalities. First, landfill sites are expensive to construct and maintain. Approved sites are expensive because of the cost of property acquisition and the public hearing requirements and court litigation that have become standard in site selection. They are increasingly expensive to monitor and operate. They represent the allocation of scarce municipal resources to a non-productive use. A landfill site is lost to commercial, industrial, or residential use, and represents reduced property tax income to the local government. Moreover, as cities run out of potential landfill sites, they are forced to search farther and farther afield for sites which will be acceptable to other state and local governments. Access to these sites is increasingly expensive, and, as they get farther and farther away, transportation costs become more and more burdensome.

Additionally, a city faces the daily cost of cleaning littered streets and picking up solid wastes. Collection and disposal activities averaged about $43 per ton for cities in 1978. At a time when cities are being hard hit by federal and state budet reductions, we can ill afford unnecessary collection costs for beverage containers.

Finally, from a technical perspective, clean-up of shattered glass, crumpled beer and soft drink cans, pop tops, and so forth, is exceptionally difficult—but it is a local responsibility. Because this litter represents both a health and safety danger to our citizens, we have to spend municipal funds on this increasingly difficult clean-up task. Because this litter detracts so much from the clean appearance of our parks and roadsides, not picking it up would have a negative impact on property values. A bottle, once shattered on a city street, is many times more expensive to retrieve and dispose of than one which is returned and refilled time after time after time.

Likewise, as cities construct more resource recovery facilities, it is and will increasingly be important that we have the ability to manage the solid waste stream. These new technologies will require both volume reduction and source separation of materials that are not compatible with the recovery process. It makes almost no economic sense from a cost-benefit viewpoint to process materials as municipal solid waste when they can be reused or recycled in a separate, less expensive, more efficient process.

To conclude, Mr. Chairman, we have believed for some time in measures to reduce beverage container trash at its source. Once a container is purchased, its actual cost to the consumer and to municipalities has only begun. Without question, its clean-up and disposal cost is rapidly surpassing the original purchase price.

It is our view that the substantial local costs incurred are wasteful at a time when we cannot afford waste. The savings to local governments inherent in S. 709 would enable us to provide for meeting higher budget priorities, while at the same time reducing potential drains on our property taxes. It would enable cities to do what they cannot do for and by themselves, yet at no cost to the Federal Government. For us, it would mean cleaner cities at a reduced cost, the opposite of where we seem headed today.

Thank you for asking us to testify. I appreciate your concern, and would be pleased to respond to any questions you might have.

The CHAIRMAN. I did not call Mark Croke. I'm not familiar with Mr. Croke. Are you here representing the National Association of Counties?

[No response.]

The CHAIRMAN. OK.

Mr. WHITE. Mr. Chairman, if I might, I would like to offer and present for the record the testimony of the National Urban League, Inc., in support of the legislation.

The CHAIRMAN. Thank you very much. I appreciate it. Mr. Sampson?

Mr. BOOTHBY. Mr. Chairman, Mr. Sampson unavoidably could not be here this morning. I am Charles Boothby, executive secretary of the National Association of Conservation Districts.

The CHAIRMAN. I have you both listed. I wasn't sure which one was going to testify.

Mr. BOOTHBY. You have our statement and rather than give an excerpt from it or read it—it's a short statement—I would like to just tell you that the conservation districts have been very much involved, especially with municipalities, in trying to locate sites for new solid waste disposal facilities. This has really led our conservation districts into concern about recycling.

I feel that rather than being somewhat shortsighted, I believe that this is one small step toward an overall approach to recycling.

I'd also like to give you a little bit of my experience in the State of Maine, which also has a bottle statute. You should know that last year, a referendum attempt was made to overturn the bottle law in the State of Maine. It was defeated by about a 2-to-1 margin.

Conservation districts, of course, work very closely with the farmers, ranchers, and all the landowners throughout the country, and many of them have been receiving complaints about the slashed tractor tires from broken bottles. One of the real problems, as I see it, is we're still going to get litter from especially beer containers because in many States, an open bottle in the automobile is prima facie evidence of drinking and driving.

So if they're going to be drinking on the road, why, they probably are still going to throw the bottles out.

I'd be glad to answer any questions you may have.

[The statement follows:]

STATEMENT OF CHARLES BOOTHBY, EXECUTIVE SECRETARY, NATIONAL ASSOCIATION OF CONSERVATION DISTRICTS

Mr. Chairman, members of the committee, I am Charles Boothby, Executive Secretary, National Association of Conservation Districts, commonly known as NACD. We represent the 3,000 conservation districts in the 50 states, Puerto Rico, and the Virgin Islands, and the 17,000 conservation districts officials which serve on these local boards of supervisors.

Conservation districts are established under state enabling legislation to develop and carry out land and water conservation programs at the local level. They are presently providing services to over 2½ million landowners and operators.

Our main concerns are the rational use and the long-term productivity of the nation's land and water resources. Because of these concerns, we do have interests in the rational use of our non-renewable energy and mineral resources as well. Many of our member conservation districts have spent many hours in providing technical assistance to municipalities and counties in the location and evaluation of new solid waste disposal sites because present sites have been filled much faster than expected. This has been a drain on technical assistance resources as well as a waste of reusable resources.

In many of the states which have returnable beverage container legislation, conservation districts and the state associations of conservation districts have played a role in the passage of this legislation and in fighting off attempts at repeal. From Oregon to Vermont and Maine, conservation districts have been strong supporters. Through our national Council, with representatives from every state, NACD has established a policy of supporting returnable beverage container legislation. This is a long-standing position of this Association.

We thank you for this opportunity to present the views of this Association. We will respond to any questions you may have.

The **CHAIRMAN**. I'll wait until the end of the panel. Mr. Steisel? Did I pronounce that correct?

Mr. **STEISEL**. Yes, you did. Thank you, Mr. Chairman. My name is Norman Steisel. I'm the commissioner of sanitation of the city of New York. I'm testifying today in support of this bill on behalf of the city of New York.

A commissioner of sanitation rarely has an opportunity to support a piece of legislation which promises such positive impact on his sphere of concern as the beverage container deposit law does. I run an operating agency in New York City, charged with delivering daily sanitation service. Mine is a very practical point of view: Get litter and garbage off the streets and dispose of it in as cost-effective and environmentally sound a manner as possible.

Today, as I indicated, I speak not only for myself and my agency, but also for the mayor of New York City. The perspective of the mayor's office encompasses not only our streets, landfills, and incinerators, but also consumer, business, and industry interests.

New York City has worked very hard to evaluate the effects of mandatory deposit legislation. We have analyzed proposed bills very carefully and have reached a very favorable decision. We support such legislation. We support it in New York State, but we feel that the system, if implemented nationally under the bill currently being considered, will have clearly extended benefits in the form of litter and waste reduction, energy and materials conservation, and job generation nationwide, as was very eloquently elaborated on earlier this morning by Senator Hatfield.

Additionally, a national law will mitigate some of the possibly negative impacts that result from separate State systems. These include particularly the border sales losses between deposit law and nondeposit law States.

A great deal has been said earlier today about the overwhelming public support for such a bill in the various States in which it's been considered. We have had a very similar experience in New York City, where we recently conducted a public attitudes survey about a broad range of sanitation issues. We found that only 10 percent of the people surveyed would not be willing to comply with a bottle bill, which I think very favorably reflects the experience elsewhere. With that kind of compliance, we would expect in New York City a decrease in litter of about 25 or 30 percent by volume, or 16 percent by weight overall, probably much more in our parks and recreation areas.

What this would mean is a direct saving of about $5 million a year in operating expenses in our waste disposal operations and a cost avoidance of about $25 million a year to get equivalent clean streets. This has become a very important thrust for us.

Deposit law opponents will acknowledge that these savings for cities can legitimately be expected under a deposit law, but they tell us that the price of such municipal savings for consumers is too high to pay. It is true that consumer price rises will reflect the cost increases that occur in manufacturing, brewing, bottling, distribution, and retailing as a result of the law. But frankly, we feel that projections of cost increases by industry may be overstated. We challenge the short-range bottom line mentality of many of the representatives of the industry on the price issue.

Cost increases incurred by the beverage-related industries should be offset by increased revenues and savings to these same industries, resulting from greater use of refillables and from the sale of container materials for recycling. Industry savings should then be passed on to retailers, and from retailers to customers.

To the extent that this is not true, we believe is in part due to the relative unimportance of price competition in the beverage industry. It is also in part due to the fact that in the absence of a uniform national law, State-by State deposit law idiosyncracies and lack of geographic continuity have made it more difficult for industry to take advantage of regional planning and regional production economies in implementing a deposit system.

According to the GAO study, which you heard a bit about today on the effects of a national mandatory deposit law, total cost to industries under such a national law should go down, even with a 15-fold increase in capital spending due to the law.

Lowering of industry costs will come about largely because of an increase in the percentage of refillables available following deposit legislation. An examination of the industry's own tracking data, which has been referred to here on several occasions, if looked at over a long enough period of time, will show that, indeed, as there is a trend toward refillables, consumer prices also come down. Costs to the consumer come down while industry maintains profitability. Short-term economic changes will occur, but don't fully reflect what is likely to happen over the long haul.

Another issue which has to be talked about is the impact on the retailer. We are particularly supportive of the provision in S. 709, which requires rebates to the retailer of 2 cents for every returned container. Our research indicates that in States with deposit laws, 2 cents per container is a fair estimate of added retailer cost for space and personnel to handle deposits and empties.

Another major fear of business, sales losses along State borders, can only be addressed through the imposition of a national law.

In closing I would say that mandatory deposit systems have been considered by the House, by the Senate, and by most State and county legislators for almost 10 years. The lobbying has been intense, time and resource consuming, and emotional on both sides of the issue.

Now based on the experience in six States, there is more than speculation about results; there is clear evidence at a number of levels that deposit laws accomplish their intended purpose. Cities need this bill; people want it; and in the opinion of the city of New York, it's time to move on a national beverage container deposit law.

Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF NORMAN STEISEL, COMMISSIONER, NEW YORK CITY DEPARTMENT OF SANITATION

A Commissioner of Sanitation rarely has opportunity to support a piece of legislation that promises such positive impact on his sphere of concern as a beverage container deposit law. I run an operating agency in New York City. I am charged with delivering daily sanitation services. Mine is a very practical point of view. "Get litter and garbage off the streets, and dispose of it in as cost-effective and environmentally sound a manner as possible."

But today I speak not only for myself and my agency, I speak for the Mayor of New York City. The perspective of the Mayor's office encompasses not only streets, landfills and incinerators, but also consumer, business and industry interests. In New York City we have worked hard to reach a fair decision on mandatory deposit legislation. We have researched the issue, applied common sense in anticipating effects in the City, and prepared a 160-page report which I today enter into the record of this hearing.

The decision we have reached is favorable. We support a beverage container deposit system. We support it in New York State. But we feel that the system, if implemented nationally under a bill such as S. 709, the "Beverage Container Reuse and Recycling Act," will have clearly extended benefits in the form of litter and waste reduction, energy and materials conservation, and job generation nationwide. Additionally, a national law will mitigate some of the possible negative impacts that result from separate state systems. These include, particularly, border sales loses between deposit law and nondeposit law states.

During the past eight or more years, since deposit laws have been under consideration in Congress and state and local legislatures around the country, a clear consensus has emerged regarding the environmental benefits of a deposit system for beverage containers. In our cities—and New York is probably one of the more extreme examples—the sense of environmental deterioration and degradation is so intensified by the unsightly, unhealthful and unsafe accumulation of litter in recreation areas, streets and vacant lots, that poll after poll, conducted to elicit opinion on the issue, concludes that people want a deposit system, and view it as an excellent means of addressing the litter and waste problem.

The calculation of the amount of impact a deposit law will have on litter and solid waste is very much dependent on the willingness of individuals to return their containers for deposit. Those who oppose a deposit law suggest that big city residents will not take the trouble to return their bottles and cans. to the extent that surveys are indicators of public sentiment and will, a survey conducted for the New York City Department of Sanitation in Novembr 1980 by the firm of Penn and Schoen Associates, concluded that New Yorkers are willing to comply with a deposit law. Only ten percent of those questioned said they would not comply. That ten percent is in line with the actual experience in states with deposit laws, where 80–90 percent of the beverage containers are, in fact, returned.

That being the case, we can expect a decrease in litter in New York City of 25–30 percent by volume overall—far more in parks and recreation areas.

And our estimates are conservative!

Conversations with the Michigan Department of Transportation, the Department of Natural Resources, and the Wayne County Roads Commission, suggest to us that greater reductions are possible. Detroit has reported a 33 percent reduction in litter volume overall, with as much as 60 percent volume reduction in the city's parks.

In New York City we expect the greatest impact, aside from recreation areas, to be on commercial streets. In New York we have a unique system for measuring street cleanliness, called Operation Scorecard. Recently our streets received a 50 percent "acceptable" rating, but a failure continues to be evident on business district streets that are most heavily littered with beverage containers. These streets will be most susceptible to the positive litter reductions likely under a deposit law.

Reduction of solid waste in New York City, under the law, will reach six to eight percent. For us, such a percentage reduction translates to 700 to 900 fewer tons of refuse going into our landfills and incinerators daily. No other measure that we know of will decrease waste in those dramatic proportions. While the savings, spread throughout New York City's current disposal system of incinerators and landfills are hard to calculate, ranging in the area of $1.5 to $2 million, the savings once resource recovery is in place in the City is significant. Seven to nine hundred tons per day times the $15 to $20 per ton tipping fee the City expects to pay at its future resource recovery facilities will equal an annual saving of at least $3 to $5 million in disposal costs alone. And this does not include collection costs savings and personnel and equipment associated with litter removal.

Deposit law opponents acknowledge that these savings for cities can legitimately be expected under a deposit law, but they tell us that the price of such municipal savings for consumers is too high to pay.

It is true that consumer price rises will reflect the cost increases that occur in manufacturing, brewing and bottling, distribution and retailing as a result of the law, but, frankly, we feel the projections of cost increases by industry may be overstated, and we challenge the short term, bottom line mentality of many of the representatives of industry on the price issue.

Cost increases incurred by the beverage related industries should be offset by increased revenues and savings to these same industries, resulting from greater use of refillables and from the sale of container materials for recycling. Industry savings should then be passed on to retailers, and through retailers to consumers. The extent to which this is not true is, in part, due to the relative unimportance of price competition in the beverage industry. It is also in part due to the fact that, in the absence of a uniform national law, state-by-state deposit law idiosyncracies and lack of geographic continuity have made it more difficult for industry to take advantage of regional planning and regional production economies in implementing a deposit system.

According to the U.S. General Accounting Office's 1980 report on the potential effects of a national mandatory deposit law, total costs to industry under a national law should go down, even with a 15-fold increase in capital spending due to the law. This lowering of costs will come about largely because of an increase in the percentage of refillables available following deposit legislation.[1] New York City now has practically no refillable bottles for either beer or soft drinks. New York State has only about ten percent. Under a deposit law, refillables will, in some greater measure, be re-introduced into the city and state, and the lower cost of the refillable container should bring the per ounce cost of beverages down, possibly below the pre-law price, but, in any event, below the price of the same beverage sold in a non-refillable container.

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[1] "Potential Effects of a National Mandatory Deposit on Containers," U.S. General Accounting Office, PAD-78-19, p. 50

A careful review of some of the price tracking data used by the industry, (eg. the comparative tables prepared by the National Retail Tracking Industry), points up a failure on industry's part to be precise and consistent in comparing deposit law and non-deposit law states. Considerations that might mask the true price of beverages, such as the inclusion of taxes in shelf prices, the differences in taxes between neighoring states, the relationship between prices before and after implementation of the system, etc. are not consistently treated. Likewise, comparisons sometimes do, and sometimes do not include refillable bottles and lower priced, non-national brands.

Although there may be some rise in prices immediately following implementation of a deposit system, evidence in deposit law states does not support the position that price rises are necessarily permanent. It is, in fact, likely that normal increases in the cost of doing business are the most influential factors in raising beverage prices.

Price is of concern not only to consumers, but to retailers who fear loss of business due to the higher prices they will have to charge to cover industry pass-along increses, as well as their own new requirements for space and personnel. Our concern for retailers is heightened by the fact that, in New York City, there are probably more small convenience grocery stores than elsewhere in the country. Storage and display space are at a premium; commercial rentals are high.

To assist the retailer, we are particularly supportive of the provision in S. 709 which rebates the retailer two cents for every returned container. Our research indicates that in states with deposit laws, two cents per container is a fair estimate of added retailer costs for space and personnel to handle deposits and empties.[2]

Missing from S. 709 is language permitting or encouraging the establishment of redemption operations, where feasible, that will not only assist some retail businesses in managing returns, but may also be a source of new employment. We suggest inclusion of such language. The experience in Michigan of just one redemption business—Michigan Container Redemption Corporation—strengthens our belief that redemption businesses can provide a needed service under certain conditions, while simultaneously creating new, and in reasonable measure, skilled and productive jobs to offset those limited losses that may occur in the container industry. Michigan Container Redemption Corporation claims that as many as 500 redemption and recycling jobs can be created in a large state as a result of a deposit law.[3] While there may also be some job loss in the container industry as a result of changes in the container mix, it seems clear that periodic dislocations are endemic to the container industry, and the job loss cannot automatically be laid at the feet of a deposit system.

Another major fear of business—sales loss along state borders—can only be addressed through the imposition of a national law. In the case of New York State, stores along the Connecticut border have gained by the fact that a deposit system exists in one state and not the other. And while, in this case, the plus is on the New York side, such inequalities are essentially unfair, and should be rectified through passage of an evenhanded national law.

Mandatory deposit systems have been considered by the House, by the Senate, and by state and county legislatures for almost ten years. The lobbying has been intense, time and resource consuming and emotional on both sides of the issue. Now, based on the experience in six states, there is more than speculation about results; there is clear evidence that, on a number of levels, deposit laws accomplish their intended purpose. Cities need this bill; people want it. In the opinion of the City of New York, it's time to move on a national beverage container deposit law.

The CHAIRMAN. Thank you very much. We'll conclude this panel with Senator Clarence Mitchell from the State of Maryland. Senator, good to have you with us.

Mr. MITCHELL. Thank you, Senator. Good to be with you. Having had 19 years' experience in the legislative process, I have submitted a witten statement which I'm certain the members of this committee as well as yourself can read. So I will only refer to the fact that I have submitted a written copy of the testimony.

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[2] Conversations with management of Pegnataro's, a large New Haven, Ct. supermarket chain (October 1980), and with the NYS Food Merchants Association (January 1981).

[3] Conversations with Michigan Container Redemption Corporation, October 1981.

The CHAIRMAN. It will be in the record. I appreciate you submitting it early. I had a chance to read it this morning before the hearing.

Mr. MITCHELL. Thank you. I also would like to indicate that as president of the National Black Caucus of State Legislators, we as State legislators have become more and more interested in national issues, particularly because what happens in Washington, ultimately we end up having to live with.

Particularly, we as black State legislators have to live with inordinately high unemployment. We have to live with the trash and the garbage as well. We don't suggest that there should not be a clean environment. In fact, the Center for Environmental Studies was an entity that was formed particularly for the purpose of educating our minority constituents as to the importance of cleaning up the environment.

We happen to feel that there is a better way of doing it which we don't feel will impact as heavily on the communities that we represent and the people in those communities that we represent.

Historically, black Americans have been the last hired and the first fired. Whenever there's talk about a reduction in jobs, we always recognize we're going to suffer inordinately from that. We have good reason to believe that with the returnable legislation, the returnable container legislation and deposit legislation, that our community would again suffer inordinately. Although we recognize the goals of the environmentalists as admirable ones, we have become more and more interested in the area that the environmentalists have been working in for some time, even though in the past, we have not participated, simply because we felt that we needed to have an input and that we needed to help the environmentalists to understand some of the realities of the communities in which we live and the conditions under which we must operate.

We believe that a litter tax approach would be a better approach. I have been one who has been a sponsor of that in the State of Maryland. We believe that this is one way of achieving what the sponsors of this legislation hope to achieve and the sponsors of this legislation in our respective State legislatures hope to achieve.

[The statement follows:]

STATEMENT OF CLARENCE MITCHELL III, MARYLAND STATE SENATOR AND PRESIDENT, NATINAL BLACK CAUCUS OF STATE LEGISLATORS

Mr. Chairman, members of the committee, my name is Clarence Mitchell III. I am a Maryland State Senator and president of the National Black Caucus of State Legislators. I am here to tell you why black Americans can't afford S-709—The Beverage Container Reuse and Recycling Act.

The National Black Caucus of State Legislators is a non-partisan organization founded in 1977. It represents 337 black state legislators from 44 states and provides a valuable forum through which the needs of more than 26 million of our constituents are better served.

Today I am also speaking as a board member of the Center for Urban Environmental Studies, a non-profit, non-partisan organization which provides urban legislators and key leaders, particularly minority elected officials, with assistance in environmental planning and research.

The Center for Urban Environmental Studies has helped develop programs and workshops for the National Black Caucus of State Legislators on the issue of mandatory deposit legislation and its impact on minorities.

I am also familiar with this legislation because it has come before the Maryland legislature for the past several years. In 1980—for the first time—it reached the floor of our House of Delegates, where it was soundly defeated. I think it is very telling that 12 of our 13 black delegates voted against the bill (one abstained).

Let me tell you why this issue, when fully considered by black elected officials, deserves the negative verdict it received in Maryland.

Frankly, labor's opposition to mandatory deposit legislation has a great effect on black elected officials. No one—not even the generally well-to-do, white proponents of bottle bills—will deny that thousands of skilled jobs would be lost if a five-cent deposit bill were applied to all cans and bottles nationwide. U.S. Department of Labor statistics indicate that more black Americans are employed in the blue collar work force than in any other employment category and the container industry has one of the highest rates of black employment among industry groups—ranging from 14 to 18 percent.

Bottle bill supporters tell us that the loss of skilled jobs would be offset by some bottle-sorting jobs, but this doesn't seem to be a sacrifice we need to make. The theme of last year's conference of the National Black Caucus of State Legislators was "Sustaining and Expanding a Black Economy for the Eighties." That does not mean accepting severe negative economic jolts. It means finding solutions to environmental problems which create decent jobs for people who want to work. We cannot support government regulations or programs which frustrate employment opportunities, especially when we are only talking about soft drink and beer containers—not nuts and bolts environmental issues such as toxic waste, clean air and drinking water.

There is no constituency hit harder by mandatory deposits than the retailer. It is plain unfair to force that businessman to cope with all those cans and bottles. According to the Bureau of the Census, the majority of black-owned private enterprise is in the retail business, and many of these operations are Mom and Pop stores—establishments which do not have the capital to cope with mandatory deposits. The Northwest Black Businessman's Association, which represents many black retailers, strongly opposed and continues to oppose the bottle bill passed in Michigan in 1976. The president of the Black Businessmen's Association, in an official statement, said black voters do not favor the returnable beverage law because "it is costly, inefficient and creating hardships. This law is creating hardships to retailers, especially because of the unsanitary conditions it creates in food stores."

These hardships were echoed by a Michigan member of our Black Caucus of State Legislators, who told our organization that the higher prices passed on by retailers were "staggering" for beer and soft drink.

I believe the negative impacts of bottles bills are intensified in the urban environment where stores do not have the space to handle the returned containers and where people in often substandard housing encounter extermination problems by having to store used beverage containers.

This bottle bill issue came before voters on the 1979 Ohio statewide ballot and the Ohio NAACP took a position against it. I am quoting from the NAACP resolution: "Forced deposit laws place tremendous additional costs on all segments of the beverage industry and that cost will be passed on to the consumer. Forced deposit laws fail to achieve environmental goals, and cause consumer inconvenience and possible health hazards."

I am not before you speaking out against litter control and recycling. Both, the stated goals of bottle bill supporters, are worth achieving. On the state level, we in Maryland are considering a Litter/Recycling Law that can save jobs for adults and can actually increase employment for youth by encouraging conservation and recycling of all valuable materials—not just bottles and cans.

Bottle bills have been introduced in other states and alternatives have been explored and enacted. On behalf of our black state legislators, I urge you to oppose the intervention of Congress in this arena—especially since mandating deposits does not serve the best interests of the people we—and you—represent, our constituents.

The CHAIRMAN. Let me ask, when you mentioned a litter tax, and let me ask this of Commissioner Steisel, in essence, that's what your garbage collection service is, is one gigantic litter tax, isn't it? You tax your citizens and you run your garbage trucks and you pick up all the litter you can.

Mr. STEISEL. Correct.

The CHAIRMAN. Specifically, when people talk about litter tax, they mean taking it from designated industries and, in essence, giving it to your commission and still using it to pick up litter. That's what we have in all of the garbage services in this country today that are municipally run. We have some that are contract, but many are municipally run.

I'm curious, Commissioner—you indicate that just the deposit bill alone would save your department how much?

Mr. **Steisel**. Well, there are two estimates. One is the actual reduction in waste disposal costs by virtue of having to collect 700 to 1,000 tons a day less refuse in the city of New York. We estimate that we would save, conservatively, about $5 million a year in disposal costs. This does not include collection costs. In order to get the same litter reduction effects as a bottle bill would bring about, we would have to hire about 1,000 additional men, at a cost to the city of New York of about $25 to $26 million annually. A deposit law would, therefore, result in those avoided costs.

The **Chairman**. It seems to me that we're often comparing apples and oranges when we talk about litter taxes or garbage taxes and deposit legislation. They are not necessarily designed to do the same thing. I don't know very many bottle bill advocates, deposit advocates, that say that is necessarily a substitute for litter or a litter tax. What you are trying to stop are the throwaways of bottles and cans. You're not trying with that kind of legislation to stop the throwing away of the Big Mac containers.

Unfortunately, Commissioner Steisel will still be obligated to pick up the Big Mac container and we'll have to continue to be obligated to pick them up, but at least the deposit legislation will reduce his costs significantly and I assume also, solid waste disposal problems significantly.

Mr. **Steisel**. Yes. In my judgment, the bill has the added effect of simply getting people to think about the littering act. When they have to think about returning their containers, we're hoping that their change in mindset will extend to other forms of litter. Additional litter reductions will then follow. So we think this bill has important psychological value.

But we do believe that the bill will assist us in dealing with some of our very real and pressing waste disposal problems as well. Unfortunately, contrary to some of the comments that Senator Kasten made earlier, there is no—or there are very few—effective technologies available for mass scale materials recovery from mixed solid waste. Most of the techniques that have been explored by localities that are running out of landfill space involve some form of transformation of the garbage into an energy form, which inevitably destroys the bottles and the cans and does not provide for their economic recovery.

Therefore, a lot of the conservation benefits which Senator Hatfield spoke to quite ably and eloquently, would be lost, and will never be achieved through some of the resource recovery approaches that are now being discussed, even if those approaches could be moved forward more quickly.

The **Chairman**. Mr. White, do you want to address yourself to the solid waste disposal problem and the effect that the deposit legislation will have, in your estimation, speaking for the League of Cities?

Mr. **White**. Well, just in my own community alone——

The **Chairman**. How big is Greenbelt, by the way?

Mr. **White**. Pardon?

The CHAIRMAN. How big is Greenbelt?

Mr. WHITE. Greenbelt is a community of 17,000, that's part of the suburban county of Prince Georges County, Md. Our total collection and disposal costs are in excess of $60 a ton. The removal of bottles and cans from the waste stream would reduce that significantly.

Just the per-ton tipping cost that we have to pay Prince Georges County is $9 a ton.

The CHAIRMAN. What do you mean, tipping cost?

Mr. WHITE. When Greenbelt collects its waste, it transfers that waste to a Prince Georges County disposal facility and we have to pay Prince Georges County the dumping cost for that.

The CHAIRMAN. I see.

Mr. WHITE. That would be reduced on a tonnage basis. We have a citizen voluntary effort in the community and I'm sure that many communities have this on a voluntary basis, too. We remove about 22 tons of bottles a year, maybe a ton of aluminum cans a year, and probably about 300 tons of paper a year. When you take this nationwide, voluntary efforts are doing this, but they're only scratching the surface.

The CHAIRMAN. Give me those figures again for a town of 17,000.

Mr. WHITE. We remove on a voluntary basis 22 tons of glass a year. We remove about 300 tons of newspaper a year. We remove about a ton of aluminum cans a year. This is done on a voluntary basis. Citizens are asked to bring these materials to a central point.

We feel that it's partially solving the problem, but it's only skimming the surface. If those materials, if incentives which this legislation would obtain, if incentives were there to remove the bottles and cans at the outset, that would increase the tons of bottles and cans removed from our wastestream probably by an order of 3 or 4.

So we're convinced that this legislation not only has benefits in litter reduction; it has benefits in extending the life of our landfills. It has benefits in resource recovery. It has benefits in energy consumption. And a national approach which takes care of the inconsistent and different laws among the jurisdictions, this is the only way to solve that problem.

The CHAIRMAN. Yes, Senator.

Mr. MITCHELL. Just in conclusion, I hope that, Mr. Chairman, you and your committee will consider in developing a solution, that we not again do it on the backs of the poor. Now this gentleman, the commissioner from New York, who talks about the $5 million that will be saved, it was his mayor also who said that we ought to do away with subsidized housing, that we ought to do away with affirmative action, that we ought to do away with all of the things that have helped the people that I seek to represent.

I'm quoting directly from that mayor because I sat right beside him while he said it.

What I'm suggesting to you is that I hope careful consideration will be given to an approach that does the least damage and not strictly gives consideration to saving $5 million or $9 million if, in fact, some people who finally are pulling themselves up by their bootstraps and who are employed in skilled positions, are suddenly knocked out of jobs, lose their homes, and in pursuit of what they thought was going to be the American dream, to have it knocked out from under them again.

The CHAIRMAN. The only indepth experience I have in this is in Oregon and this is polled consistently. Pollsters love to every year measure this. Not only does Oregon overwhelmingly support continuing it, but as you look across the spectrum of those polls, either by racial mix or by income mix, there is no significant difference in support and opposition of the bill. It is not that the poor oppose the bill and the rich want it; there is no significant statistical difference in the support.

Mr. MITCHELL. I didn't think you had poor people in Oregon.

I will say this, Senator. We have in our major cities and in the urban areas an inordinately large share of the poor of this country. They have come, migrated to the cities because that's where the subsidized housing is. That's where the programs are. That's where the transportation is the greatest.

So as a result, with the high unemployment already in these areas, to lose jobs is damaging to the people who we represent and whose voices we are attempting to articulate before this committee today.

I just hope that you'll give consideration to that approach. Even some of our environmental organizations who have excluded us in the past have begun to include us in a recognition that we do have a voice and we do have something to say and that maybe they ought to take a look at our plight when they shape policy and programing that may have detrimental effects on us.

Mr. STEISEL. I'd just like to add one point. I think it's kind of ironic—I didn't expect to get into a debate with my esteemed colleague here, but perhaps we could have shared some information earlier. My understanding is that in fact, the one area of major concern and impact to minority neighborhoods and communities has been this question of job loss. The data is overwhelmingly supportive of the idea that, in fact, jobs are created through a deposit system, particularly for people with lower skills that require upgrading and developing.

As to the mayor's comments on affirmative action, I think that the mayor has simply said that he's opposed to quotas because they set arbitrary standards across-the-board.

The CHAIRMAN. Gentlemen, as much as I'd like to go on on the subject of affirmative action——

Mr. STEISEL. Thank you.

The CHAIRMAN. Thank you, fellows, very much. I appreciate your testimony.

Mr. MITCHELL. Thank you very much, Mr. Chairman, for your time.

The CHAIRMAN. Thank you, Senator. Next we have Glenn E. Braswell, senior vice president-counsel, United States Brewers Association.

I will place in the record the statement of the representative of the National Association of Counties, Mr. Croke, who was due to come but apparently did not arrive. It's a statement in support of the legislation.

Mr. Braswell?

STATEMENT OF GLENN E. BRASWELL, SENIOR VICE PRESIDENT-COUNSEL, UNITED STATES BREWERS ASSOCIATION, ACCOMPANIED BY ROBERT S. WEINBERG, ECONOMIST AND CONSULTANT TO UNITED STATES BREWERS ASSOCIATION

Mr. **Braswell.** Thank you, Mr. Chairman. My name is Glenn Braswell. I'm with the United States Brewers Association. With me today is Mr. Robert S. Weinberg, an economist from St. Louis who is recognized as a leading economic expert on the American brewing industry.

Mr. Chairman, at your request and in deferrence to time, I will eliminate my shortened version for reading here today, and recognize that in our previous appearances before this committee on this very subject, we have stated, for the record, that it was our opinion in projecting the effect of a bottle bill, that the ultimate result would be a consumer price rise.

In looking at that projection and recognizing that price rise as the central issue of this debate, and being questioned in previous testimony here today, I would like to relinquish the remainder of my time to Mr. Weinberg and ask him to address that issue of consumer cost as a result of these legislative proposals, particularly as to our product, malt beverages.

The **Chairman.** Mr. Weinberg?

Mr. **Weinberg.** An attachment to Mr. Braswell's statement is a memorandum that I prepared for Henry King at the USBA, commenting on the General Accounting Office study. My comments were harsh, but there was one thing that interested me enormously, and that is why the GAO study given an opportunity to look at the price of malt beverages under the mandatory deposit system, elected not to.

We performed a simple straightforward analysis that I would like to call to the committee's specific attention. Michigan is a unique State. The price the brewer charges the wholesaler is posted by law. Similarly, the price the wholesaler charges the retailer is posted by law.

So there is a record.

While retail prices are not posted, there are comparative shopping services and other retail organizations, other research organizations, that publish retail prices.

So Michigan represented to us the first chance to test a theory that we developed ten years ago and the thread of that theory appears through our analyses for the USBA.

If you look on page 6 of the memorandum, the attachment to Mr. Braswell's statement, table 1, you will see a simple table with three columns of data. The first two show the brewer F.O.B. price to the wholesaler of a six-pack of malt beverages sold in the State of Michigan. Then the price to the retailer of the same malt beverages—I'm sorry, the price to the consumer, the retail price to the consumer for the same malt beverages.

Now that is a factual record. But given this factual record, we may say so what? This occurred during a period of inflation, and is it possible in a simple, straight-forward way to compare what happened in Michigan to what happened in the United States?

Now in table 2, I show index numbers derived from table 1. So all we've done is taken October 1978 and said that equals one and expressed the dollars per unit in the previous table as a relative.

Now table 3 shows three comparable national statistics, three comparable national price indexes as prepared, not by the United States Brewers Association, not by any trade association, but by the Bureau of Labor Statistics.

Table 4 reduces these price indexes to index numbers. With October 1978 equaling one. Table 5 compares the price increases in Michigan with the price increases nationally. Note on table 5, the producer price; that is, the price the wholesaler paid the brewer, actually declined relative to the Nation as a whole as a result of the bottle bill. But the price the consumer paid the retailer increased at a greater rate, indicating the increase in the distribution margin, which is what we predicted in our earlier analyses and what we predicted would happen when we testified before this committee in January 1978.

We argue on the basis of this analysis, which is substantiated, that the Michigan consumer paid $40 million a year in the form of higher malt beverage prices.

The CHAIRMAN. And you conclude that this is solely the result of the deposit legislation.

Mr. WEINBERG. Solely the result of the deposit bill, Senator. And I think the question is: Are the benefits recorded, and we recognize these benefits, worth $40 million a year?

The CHAIRMAN. Let me ask you this question. Without debating your statistics, assuming they are right, why, then, did the citizens in these States overwhelmingly approve of deposit legislation if it's costing them?

Mr. WEINBERG. I don't think the consumers realize what it is costing them. I think the issue, and I was very pleased because I think that Senator Hatfield made this point, and it's the first time that I've heard Senator Hatfield make it—is that the increased costs are justified. I'm anxious to read the record. And if that be the case, it is the central issue.

But the question in my mind is that every probottle bill appeal that I've heard has stated that on top of the environmental benefits, the consumer would save money. I think that consumer costs is the issue. We've said this in a number of our studies. It would be extremely difficult to oppose this bill if, indeed, the consumer benefited. But the matter is, and I think there's ample evidence that the consumer does not. I noticed that Mr. Braswell included two articles from the Boston Globe, two articles prepared by Martin and Kathleen Feldstein, who are a husband and wife economics team. He's a professor at Harvard. I think we're beginning to realize the complexities of the economic mechanism that we're talking about and I think we're beginning to see the first signs, even on the parts of the proponents of the bill, that indeed, this legislation will cost the consumer more.

And I think this, indeed, is the issue, an extremely important issue.

The CHAIRMAN. Do you think that's the only issue?

Mr. WEINBERG. No, but I think it's an extremely important issue. Now there is something else that I have to speculate about, since other economists speculated today. That is, let's assume that Senator Hatfield is right. I believe that Senator Hatfield is right, and resources are certainly going to become scarcer. Then it would seem to me that the price mechanism would work and as the resources become scarcer, the price for these resources will go up. And as the price for the resources go up, the price mechanism will create alternate, more cost-effective packaging and distribution systems.

I think that should be amply considered. But the fact remains that contrary to all of the statements that have been made, at least historically, any statistical evidence collected demonstrates that the price of malt beverages in the bottle bill States have indeed increased at a faster rate than comparable increases in other States.

I think we cannot overlook that and I think the voter in the case of State and local government referendum should be advised—it is going to cost you more, but isn't it wonderful to receive these benefits? Don't you really want it?

The CHAIRMAN. Mr. Weinberg, I recall your testimony from 3 years ago, and I will say that it is remarkably consistent.

Mr. WEINBERG. So is your position, Senator.

The CHAIRMAN. Mr. Braswell, do you have any further comments?

Mr. BRASWELL. No, not unless you have any questions.

The CHAIRMAN. No, I don't. I appreciate it. I do appreciate the statistics and the charts. They're things we depend upon. I find your information, Mr. Weinberg, very helpful.

Mr. WEINBERG. Thank you, sir.

The CHAIRMAN. Thank you. We appreciate it.

[The statement follows:]

STATEMENT OF GLENN E. BRASWELL, SENIOR VICE PRESIDENT-COUNSEL, UNITED STATES BREWERS ASSOCIATION, INC.

Mr. Chairman and members of the committee my name is Glenn E. Braswell. I am Senior Vice President-Counsel for Legislative Affairs of the United States Brewers Association, Inc. (USBA), a non-profit national trade association incorporated under the laws of the State of New York whose headquarters office is located at 1750 K Street, N.W., Washington, D.C.

With me today is Mr. Robert S. Weinberg of R. S. Weinberg & Associates of St. Louis, Missouri, a world-renowned economist who is widely recognized as the leading expert on the economics of the American brewing industry.

The USBA is the oldest continuously incorporated trade association in the United States, having been formed in 1862. The Brewer Members of the USBA consist of 28 American brewers ranging from national brewers whose malt beverages are sold in all 50 states, to regional brewers whose markets are in various sections of the nation, to local brewers whose products are merchandised basically within a few states. The Brewer Members of the USBA produce approximately 75 percent of all malt beverages manufactured in the United States.

In addition to Brewer Members, the USBA includes among its membership numerous Associate Members representing almost every American enterprise supplying products or services to the brewing industry—from adhesives to yeast. Among the many supplier industries represented by membership in the USBA are the malting, milling, hops, paperboard, can, glass container, crown, grain and feed, advertising sign, brewing machinery, steel and aluminum industries.

The importance of the brewing industry to the economic welfare of the United States is evidenced by the fact that it currently pays in excise taxes and occupational taxes alone $1.5 billion annually to the federal government. In addition, it contributes to the various state governments more than $1.1 billion annually in malt beverage excise taxes. The brewing industry is the fifth largest industrial taxpayer in the nation.

A rough assessment of the significance of the brewing industry to our overall economy is provided by the following bare itemization of some additional economic data relating to the operations of the domestic brewing industry: U.S. brewers employ approximately 47,000 persons, paying them wages and salaries, and supplemental fringe benefits which exceed $1.5 billion. These figures do not include the employees of approximately 5,000 beer wholesalers who employ roughly 75,000 people with a payroll in excess of $1.3 billion, or the over 350,000 persons dependent upon beer for employment in retail outlets selling malt beverages in the United States. The United States brewing industry purchases $1.1 billion worth of agricultural products yearly such as grains, hops, corn and rice.

Currently under consideration by this Committee is S. 709, The Beverage Container Reuse and Recycling Act. The USBA is unalterably opposed to S. 709 and the concept of a mandatory refund value for beverage containers.

The purported purpose of S. 709 is to eliminate litter composed of soft drink and beer containers by the imposition of a refund value. To the brewing industry, the thrust of this proposal imposes restrictions that reject the preference of the consumer as clearly expressed in the marketplace and the voting booth; imposes new deposits on the consumer; and results in higher prices to the consumer. Governmental tax revenues generated by the affected industries will inevitably suffer since such restrictions will lead to reduce sales and rates of growth for those industries. Furthermore, experience has shown that such restrictions fail to solve the problems of litter and other solid waste and generally aggravate other environmental problems.

Such legislation would impose unfair burdens on brewers, other producers, their suppliers, wholesalers, retailers and the public. It will eliminate well-paying, skilled jobs in some basic industries and tends to ignore the availability of viable alternatives currently available.

Since 1969, over 2,000 individual pieces of restrictive container legislative proposals have been introduced throughout the 50 states. To date only seven states have adopted such restrictive proposals. In reviewing the data from the six states which have adopted and implemented deposit laws, it is becoming increasingly clear that the available data is too conflicting and insufficient to provide a credible base upon which one may formulate a national decision. The Resource conservation Committee of two years ago experienced the same inability to demonstrate the national need for this legislation.

Proponents of restrictive packaging legislation have by now a familiar list of benefits which they claim would accrue under these proposals: reduced litter, reduced solid waste collection and disposal costs, reduced energy and raw materials consumption, lower prices, and increased employment. This Committee is faced with the difficult task of examining these utopian claims in light of the economics and of the affected industries to determine whether the potential benefits generated under such legislation are worth the costs in economic and social values. We think not.

The first claimed benefit of such restrictive legislation is litter reduction. Statistics are brought forth endlessly from a variety of sources that propose to demonstrate the imposition of mandatory deposits on beverage containers will eliminate highway and roadside litter in America.

Evidence collected from credibly conducted studies does not bear this out.

Mandatory deposits are offered as a simple economic solution to a complicated psychological problem.

In the first place, most people don't litter. Similarly, all beverage containers produced are not littered, only a minority. In forming a solution to the problem, it is suggested that it would be more appropriate to consider sanctions such as enforcing current litter laws, mandating the existence of certain litter containers in vehicles and public places, and the imposition of effective penalties which will act as a deterrent to littering. This would require the total commitment of law enforcement, courts and citizens. On the other hand, mandatory deposits would impose an unreasonably related cost and burden on the majority of the people of this country who do not litter.

If it is true that in those states which have implemented mandatory deposit laws on beverage containers, beverage-related litter has been significantly reduced, then nevertheless, in those same states all other litter has not been reduced, and in some instances has actually increased. Considering the fact that beverage-related litter represents, by most accounts, no more than 20-25 percent of the total amount of highway and roadside litter, only a small fraction of the problem is attacked at an extremely disproportionate cost.

Questions related to solid waste divide into two categories: collection costs and disposal costs. Because beverage containers account for a relatively small percentage of solid waste and because every solid waste collection and treatment system is designed to accommodate fluctuations in collection, it is highly doubtful that restrictive legislation would affect any savings in solid waste collection costs at all. There may be some savings in solid waste disposal costs, such as landfills, which would be proportional to the percentage of solid waste that convenience packaging represents. However, these savings do not begin to approach the amount of price increases and other consumer costs that have been experienced in the deposit states to date.

Similarly, there will be little, if any, reduction in the litter pick-up costs even after the reduction of beverage container litter. The same equipment operated by the same labor force must continue to patrol the same areas and pick up the remaining 80 percent of the litter even if this legislation were 100 percent effective.

The question must then be asked: If there is no reduction in costs, what is the price for this marginal benefit in the potential reduction of only beverage-related litter?

Mr. Chairman, the one indisputable fact that appears loud and clear in each of the six bottle bill states is that whatever slight benefits may have accrued to its citizens, in each instance, the price to the consumer has been unbearable. I say unbearable because in each of the six jurisdictions, the price increases necessary to cover the added cost of a refund system have reached a level that the consumers are unwilling to bear. Their decision is reflected in the reduced rate of consumption of our product.

In each of the six deposit law states, prices before the enactment of the law were consistently lower than the prices experienced after the enactment of the law. Similarly, when comparing surrounding jurisdictions to each of those six states, it was found that deposit state prices were generally higher than the surrounding nondeposit state prices.

These unacceptable higher prices have resulted in lower demand. Again, in each of the six deposit law states, the prelaw sales growth trend was greater than the postlaw. Comparing each of the six deposit law states with their surrounding jurisdictions also demonstrates that the sales growth trends in those states are less then the trends in their neighboring states within the region.

These higher prices and lower levels of demand not only affect the industry and consumers but the governments as well. With the reduction in sales of malt beverages, the federal and state governments have lost enormous amounts of excise and sales tax revenues.

Ultimately, the consumer loses on both counts: higher prices and higher taxes to replace lost revenues to the governments.

Mr. Chairman, the USBA, represented by Mr. Frank J. Sellinger and Mr. Robert S. Weinberg, testified before this Committee during your last hearing on this subject. At that time it was projected that a price rise was the inevitable result of a bottle bill.

Since that hearing, we have the experience of the State of Michigan which demonstrates the rise in consumer cost following the enactment of its mandatory deposit law.

Mr. Weinberg has analyzed a report submitted by the General Accounting Office entitled "State Experience with Beverage Container Deposit Laws Shows Positive Benefits" (PAD-81-80). While the General Accounting Office (GAO) report only considers the possible benefits of a deposit law, Mr. Weinberg has estimated that the Michigan malt beverage consumer paid approximately $40 million in higher malt beverage prices following the implementation of the mandatory deposit law.

May I refer you to tables 1-5 on pages 6-8 which illustrate this increase and its source. A copy of this analysis is attached for the record.

This cost of mandatory deposits has similarly been recognized by Professor Martin Feldstein of Harvard, who is President of the National Bureau of Economic Research, and his wife, Dr. Kathleen Feldstein, who holds a Ph.D. in Economics from Massachusetts Institute of Technology. In their biweekly column appearing in the Boston Globe, they report in the September 1 and 15, 1981, articles that a mandatory deposit is a hidden tax and estimated the cost to be $100 million for Massachusetts alone. It must be noted that this conclusion was based upon independent analysis with no bias as to politics or professional relationships. Copies of these articles are attached for your record and review.

Another issue in the deposit arguments is jobs. Such laws do create jobs. However, it is cruel to extoll this fact as a virtue of deposits. In a simple arithmetic comparison, the number of jobs created under a deposit system would be greater than the number of jobs lost under a deposit system. However, this system displaces highly skilled and productive employment usually representing the primary breadwinner and economic foundation of a family unit with low-skilled jobs in bottle sorting and handling, particularly, at the retail level. These sheer mathematical increases in employment should not be considered a benefit of mandatory deposits, but indeed a cost. The cost is to the family, to the government in reduced income and other related taxes, and to other industries who need the labor force that is diverted to handling the bottle sorting functions.

The most fallacious argument used by proponents of mandatory deposits is the claim of energy savings in the form of equivalent barrels of oil per day. Calculations of energy savings suffer on several counts. Most importantly, they are calculated using fragmentary information from an incomplete systems analysis. Without an energy input/output matrix, it is dangerous to propose policy on such poor information. Specifically, the present malt beverage production and distribution system is a low consumer of energy per dollar of consumer spending relative to other goods and services. Tampering with this system could lead to unexpected changes in patterns of energy consumption. For example, the price increases on malt beverages induced by restrictive packaging legislation tends to reduce the demand for malt beverages. Money not spent on malt beverages is spent on other consumption items, which on the average are likely to require more energy to produce and distribute than the malt beverages not purchased. Total energy consumption thus increases. Since malt beverages are less energy intense than the average consumption item, this outcome is at least as probable as a reduction in energy consumption. Secondly, calculations of energy savings are critically dependent upon the achievement of certain high return rates for returnable bottles.

Furthermore, the energy savings claims fail to specify what kinds of energy will be saved. Since energy derived from petroleum and natural gas is scarce, and energy derived from coal is plentiful, any measure that conserves the former resources is more desirable than a measure that conserves the latter. A 10-trip returnable bottle conserves mostly coal and some natural gas. It uses more petroleum than a steel can . . . in fact, returnable bottles always consume more petroleum than steel cans, particularly because of the petroleum consumed in returning them through the chain of distribution—from consumer to retailer to wholesaler to brewer.

Because of these complex economic interactions, the consumer is further plagued by a reduction in the choice of labels and brands available for purchase at a retail level. The problems of sorting, handling, accounting, and returning empty returnable bottles results in a natural tendency of retail operators to restrict the number of labels and brands available for purchase in an effort to minimize their cost of operations.

It is noted with great interest, Mr. Chairman, that this bill contains a provision which would refund to the retail operator at least two cents per container to cover handling costs. By this provision, you are recognizing the cost inherent in the implementation of a deposit system. However, by this same provision, you are setting an artificial floor on that cost and dictating where it should not be imposed. No matter what formula is imposed, the consumer will ultimately bear any cost of a deposit system. It may be suggested, however, that absent the artificial imposition of a minimum cost through legislative enactment of retail rebates, the market forces at work under a free enterprise system may indeed find those estimates to be incorrect.

The USBA is keenly aware of its responsibility to assure that sales of its product are legal and made under proper conditions and of its obligations to accommodate itself to the demonstrated preferences of the consumer to whom it is ultimately responsible and to pursue policies and programs that are in the public interest. The imposition of mandatory deposits on beverage containers does not, in our opinion, meet that test. When comparing the slight benefits, if any, to the exhorbitant and demonstrated costs, the imbalance of the data would suggest that to impose mandatory deposits would be a poor governmental decision. If the reduction of litter is the single objective of this proposal, it would be much more economically efficient, as demonstrated by the states, to simply pay for all litter to be manually removed from highways and roadsides.

Furthermore, there is a growing industry of voluntary recycling being developed in America, which under a free market system is providing a productive solution to litter. Because of the increased intrinsic value of all solid waste, there is a natural economic incentive for consumers and collectors alike to participate in the recovery and reuse of many materials today. Operators of recycling facilities have stated that the health of their industry depends upon the volume of materials handled. It has been their position that under a mandatory deposit system, the volume of recyclable materials is diverted to a nonproductive waste stream and deprives that industry of the opportunity to provide an environmental service to this nation. We would join with those who support voluntary recycling of all materials in an effort to create a natural economic system of recovery and reuse.

The USBA is deeply concerned with the danger to our Nation's overall economy, to our already heavily taxed and regulated industry and to the public's options in the marketplace, which are inherent in unreasonable discriminatory legislative proposals to penalize convenience containers by prohibition, taxation or restrictions via mandatory deposits.

We recognize the urgency of preserving and improving the quality of our Nation's environment, and as an industry voted into existence by an affirmative action of the people, we are particularly aware of the urgency of accommodating ourselves to the public interest and of respecting the public's preference, convenience and freedom of choice.

The USBA believes that the American public can and should continue to enjoy its traditional freedom of choice in the marketplace, while at the same time, manufacturers, distributors, retailers and consumers of packages and products can and will contribute substantially through concentrated efforts to constructive solutions to problems of litter control and solid waste management.

Thank you.

March 6, 1981

Memorandum to: Mr. Henry B. King, President, United States Brewers Association

Subject: The General Accounting Office (GAO) Report: State Experience With Beverage Container Deposit Laws Shows Positive Benefits (PAD-81-08), December 11, 1980).

In response to your request we have reviewed the recent General Accounting Office (GAO) report *States' Experience With Beverage Container Deposit Laws Shows Positive Benefits*. The report is little more than a pro-bottle bill polemic short on both facts (i.e., hard data) and relevant analysis. The study might be an acceptable senior honors essay or masters thesis but it is too loose and incomplete to be a serious guide for policy making at any level of government. We were surprised that the normal internal review process within GAO would allow a report of this quality to be released.

The present report is GAO's second look at the impact of mandatory deposit legislation. We have commented rather strongly on both the draft and final versions of the first GAO report *Potential Effects Of A National Mandatory Deposit On Beverage Containers (PAD-78-19, December 7, 1977)* elsewhere (see Attachment A) and had assumed that the many questions we had raised would ultimately be answered in some later GAO analysis. This has not been the case. We were highly critical of the first GAO report and provided GAO staff members with a detailed analysis of their initial draft report. In August 1978 we completed what we believed to be an important working paper *The Economics Of The Malt Beverage Production/Distribution System 1976* (see Attachment B) which we also forwarded to GAO staff members.

We were aware that the GAO was preparing a second study and were looking forward to seeing it. We naively believed that their second study would be more complete and thorough than their first and would at least develop a careful systematic analysis of the complete malt beverage production/distribution system. That is, an analysis of the impact of the Michigan mandatory deposit law on the price of malt beverages in Michigan that was at least roughly similar in format to the analyses developed in our attached working paper. To our surprise the quality of GAO's second report was not better than it's first; it was worse.

The best thing we can say about the new GAO report is that it is incomplete. The authors take us through Robin Hood's barn, talking about changes in various total cost elements in the malt beverage production/distribution process but nowhere do they ever come out and say how much more (or less) the consumers had to pay for their malt beverages as a result of the mandatory deposit laws in Maine, Michigan, Oregon, Vermont, Iowa or Connecticut. In our opinion this is actually the most important single question from the point of view of public policy. We believe that even the most ardent opponents of any mandatory deposit legislation would agree that a mandatory deposit would in fact both reduce litter and solid waste and conserve resources. The crucial questions are (1) To what extent will litter and solid waste be reduced and resources conserved?, (2) What impact will these changes have on the Nation's economic health, particularly employment?, and (3) What effect will a mandatory deposit system have on the price the consumer must ultimately pay for malt beverages? The first question addresses the benefits we might receive; the second and third questions focus on the costs of achieving these benefits.

Beginning on Page 77 of the Senate Hearings which are reproduced below as Attachment A, we developed a detailed discussion of the criteria which should be used in evaluating any study of the impact of a mandatory deposit law. We will not repeat this argument but will try to clarify the basis for our concern with the present GAO report, the first GAO report and most of the other analyses used by proponents of mandatory deposit laws. We agree with the approach of analysts who use simple "materials flow" models based on the number of units (i.e., malt beverage containers) passing through the system and on the material and energy inputs which make up these units to attempt to estimate the reduction in litter, solid waste and resource use associated with the operation of a mandatory deposit system. We may disagree with the specific litter rate, package weight and materials or energy input factors used in a given study, but we would be in essential agreement with the methodology employed. Estimating these physical impacts is a reasonably straight forward process. In fact, with the exception of litter, it is too easy to estimate these physical impacts, the alleged benefits in terms of solid waste reduction and resource and energy conservation. As a result, analysts studying the impact of mandatory deposits on the malt beverage production/distribution system fall into the trap of only performing an incomplete or lopsided analysis.

While a great deal of data are available describing the number and types of malt beverage containers sold in any market and the materials required to manufacture these containers, data describing the dollar costs associated with the use of each container type (i.e., the cost of filling and handling each container type through the production/distribution system) are not readily available. Without a detailed knowledge of the cost structures of the brewing industry, malt beverage wholesalers and malt beverage retailers it is impossible to develop accurate "container use" cost estimates. To develop a complete analysis a third and even more difficult set of estimates must be developed. We must estimate how the consumer will behave under the mandatory deposit system. That is, what will the ultimate package mix be under a mandatory deposit system?

Our point is that at least three different kinds of estimates are required to develop a complete analysis of the impact of a mandatory deposit system; (1) technological estimates (i.e., the materials input vectors), (2) very specific industry cost estimates and (3) human behavior estimates.

Recognizing the difficulties associated with developing estimates of how consumers will behave under a mandatory deposit system, the authors of the GAO report, and all of the other studies we have seen, merely assume some post mandatory deposit law package mix distribution. While this avoids a difficult (if not impossible) estimating problem, the assumption also makes the entire analysis subject to question.

In the first GAO report the authors assumed (Table 6, page 17) a base line (i.e., no deposit) package mix of 52.0 percent metal cans, 24.0 percent refillable bottles and 24.0 percent one-way bottles. They also assumed that under a mandatory deposit system the package mix would change either to 48.0 percent metal cans and 52.0 percent refillable bottles (their Mix I) or to 80.0 percent metal cans and 20.0 percent refillable bottles (their Mix II). In both cases the GAO analysts assumed one-way bottles would completely disappear from the market. Plastic bottles were not even included in the first GAO report even though the projections were for the year 1981. In their second report (Table 11, page 36) the GAO analysts assumed a "no law" package mix of 51.0 percent metal cans, 19.0 percent one-way bottles, 24.0 percent refillable bottles and 6.0 percent plastic bottles. If we assume that plastic bottles replaced one-way bottles, this is essentially the same projection GAO used in their first report. The Mix I and II projections used in the first GAO report were replaced by a single projection of 25.0 percent metal cans, 15.0 percent one-way bottles, 50.0 percent refillable bottles and 10.0 percent plastic bottles.

In 1977, with no information, GAO analysts assumed two possible package mix distributions. Reviewing these distributions in 1980 they state, "In the 1977 report, we could not base our assumptions about *so important a variable**as container mix on evidence suggesting a simple value or a narrow range of values. Our solution was to vary values widely enough to cover most situations. This resulted in Mix I and Mix II assumption shown in Table 6 of the 1977 report" (page 35, Second GAO Report). Between the first and second GAO reports the one-way bottle arose from the dead. If we include the plastic bottle as a one-way bottle, the GAO's 1980 projections are 25.0 percent metal cans (down from 48.0 and 80.0 percent in the first report), 25.0 percent one-way bottles (up from zero percent in the first report) and 50.0 percent refillable bottles (compared to 48.0 percent or 80.0 percent in the first report). GAO's 1980 projections are little more than the authors' guesses rationalized by a loose analysis of post mandatory deposit law package mix changes in Maine, Michigan, Oregon and Vermont (see table 12, page 37, Second GAO Report). The GAO "methodology" discussed on pages 35-39 is completely arbitrary and unconvincing.

The GAO analysts are quite cavalier in the manner in which they handle their data. In some cases they round their estimates to the nearest five or ten and in other cases they show unit values. If we literally accept Table 13 (page 39), the results shown are inconsistent. The table is as follows:

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* *Italics added.*

Container Mix Estimates For 1981
By Beverage Type

	Soft Drinks	Beer	Total
Cans	20%	35%	25%
One-Way Bottles	0	32	15
Refillable Bottles	65	33	50
Plastic	15	0	10

By definition the "Total" estimate must be a weighted average of the individual Soft Drinks and Beer estimates. That is, an average weighted by the relative share (i.e., volume) of each product. It is impossible to derive a set of weights that will exactly reproduce the values for the Totals shown above, but if we arbitrarily assume a weight of 0.6 for soft drinks and 0.4 for beer we may compute the following Total values: 26.0 percent for metal cans, 12.8 percent for one-way bottles, 52.2 percent for refillable bottles and 9.0 percent for plastic bottles. If we round these estimates to the nearest 5.0 percent values we obtain the values shown in Table 13. Yet the authors must believe unit values are significant since they show unit values for their beer estimates. They are inconsistent. We recognize that this example is little more than "nit-picking" but it does illustrate the casual manner in which the authors handle their data. We would regard the Table as being consistent if the values shown for beer were also rounded to the nearest five values.

Since we believe it is probably impossible to develop an accurate estimate of how the package mix actually will change under a mandatory deposit system, we do not fault any analyst who frankly admits this and offers some range of estimates as the GAO analysts did in their first report. However, we must question any analysis which attempts to develop a "statistical" projection based on data which shows such a wide range of variation as there is between the four mandatory deposit states as shown on GAO Table 12. We cannot help but wonder if the authors of such analyses are just deceiving themselves or are trying to deceive their audience.

Consider the problems associated with the derivation of the technological estimates required for a complete analysis of the impact of a mandatory deposit law. The solution to these problems are quite straight forward. It is comparatively simple for a trained professional analyst to estimate both a current (or historic) materials input vector and a current package mix estimate for a given market. Abundant data are available from many different sources. An experienced analyst would not require an extensive specialized knowledge of the brewing, wholesaling, and retailing industries to develop useful materials input vectors. It is, however, a far more difficult task to project future materials input vectors or, as discussed above, future package mix distributions.

Projecting a materials input vector into the future requires estimating the impact of "technological change" in the packaging materials industry. Such a projection will require a unique knowledge of materials technology. In the area of estimating future materials input vectors it is extremely important to use the most up to date and timely data that are available. Technology can change quickly. Considering the significant changes which have taken place since 1977 in the areas of energy conservation and resource (i.e., input) substitution, we question how any national policy can possibly be based on energy usage rate factors from a study prepared, no matter how carefully, in September 1976 which relied heavily on an even earlier August 1975 study. We doubt that any responsible executive in either the public or private sector would not feel very uncomfortable making an important policy decision in 1981 based on future energy requirement estimates derived from a set of energy consumption factors prepared in 1975 and 1976. Too many things have happened in the past four or five years to change these factors.

With the exception of our own industry studies, we are unaware of any mandatory deposit law impact analyses which have attempted to collect the actual data necessary to trace all of the major elements which contribute to the price of malt beverages to the consumer. Such an analysis requires a unique specialized knowledge of the production and distribution of malt beverages. Because of the limited availability of published data, other analysts have relied on essentially theoretical or normative analyses which are long on assumptions and short on hard facts.

From our first U.S.B.A. study *The Effects of Convenience Packaging On The Malt Beverage Industry 1947-1969* which you published on December 1, 1971 we have argued that a returnable bottles only malt beverage production/distribution system would lead to higher malt beverage prices. Our most recent complete analysis, reproduced below as Attachment B, argues that in 1976 in an exclusively returnable bottles national malt beverage production/distribution system, the price the consumer would have to pay for malt beverages purchased for off-premise consumption would increase by at least 4.6 percent for metal cans (i.e., 6.4288/6.1447 = 1.0462), 4.9 percent for non-returnable bottles (i.e., 6.4288/6.1447 = 1.0487) and 14.0 percent for returnable bottles (i.e., 6.4288/5.6371 = 1.1404) (see pages 8 through 11 of Attachment B). If we use the off-premise market national package mix distribution shown in Section D of Table One of the Working Paper (i.e., page A-5 of Attachment B) as weighting factors we may derive a weighted average national price increase of at least 5.1 percent (i.e., 4.62(0.7548) + 4.87(0.2039) + 14.04(0.0414) = 5.06). On the basis of this analysis we would expect that under a returnable system the retail price of malt beverages sold in the off-premise market would increase by at least about 5.06 percent.

What happened to the retail price of malt beverages sold for off-premise consumption in Michigan since mandatory deposits? We were surprised that the GAO study did not attempt to answer this important question since the data necessary to perform this analysis are readily available to any analyst willing to do some digging. Michigan is a price posting state. The Michigan Liquor Control Commission requires that all brewers shipping malt beverages into the Michigan market "post" their F.O.B. prices to wholesalers with the MLC. The prices wholesalers charge retailers must also be posted. Retail prices are not posted with the Liquor Control Commission but may be obtained from private comparison shopping and market research services. Since GAO did not consider the impact of the mandatory deposit law on the price the consumer must pay for malt beverages, we have prepared a simple analysis of a major Michigan malt beverage market which we believe is typical of the markets in which most of the malt beverages consumed in Michigan are sold.

We will invoke "Ockham's razor" and construct the most simple analysis possible to demonstrate the negative impact that mandatory deposits have had on the retail price of malt beverages in Michigan. We will merely compare the increase in malt beverage prices in Michigan with the increase in malt beverage prices nationally and compare any observed differences with the differences which might have been expected on the basis of the analyses developed in our August 1978 Working Paper (pp.8-11 of Attachment B). A large out of state brewer provided us with price data for their major brand in an important Michigan market (i.e., a large industrial city). These data are shown in Table One.

TABLE ONE

LARGE OUT OF STATE BREWER F.O.B. PRICE TO WHOLESALERS IN A MAJOR MICHIGAN MARKET OCTOBER 1978-NOVEMBER 1980

	Brewer F.O.B. Price To The Wholesaler		Retail Price To The Consumer
	12 Ounce Bottle	12 Ounce Can	
	(Dollars Per Six Pack)		
October 1978	1.0042*	1.0497	2.19
November 1979	1.0567	1.0942	2.55
November 1980	1.1367	1.1742	2.79

* *Computed by dividing the price per case (excluding excise taxes) by four.*

For purposes of analysis the price data shown above may be converted into simple index numbers with October 1978 prices equal to 1.0000. These index numbers are shown in Table Two.

TABLE TWO

LARGE OUT OF STATE BREWER F.O.B. PRICE TO WHOLESALERS IN A MAJOR MICHIGAN MARKET OCTOBER 1978-NOVEMBER 1980

	Brewer F.O.B. Price To The Wholesaler		Retail Price To The Consumer
	12 Ounce Bottle	12 Ounce Can	
	(October 1978 = 1.0000)		
October 1978	1.0000	1.0000	1.C000
November 1979	1.0523	1.0424	1.1644
November 1980	1.1319	1.1186	1.2740

The table above shows that between October 1978 and November 1980 the price the Michigan wholesaler had to pay the brewer for malt beverages increased 13.2 percent for 12 ounce bottles and 11.9 percent for metal cans. The price the Michigan consumer had to pay the retailer increased 27.4 percent during the same period.

How do these Michigan price increases compare to the corresponding national price increases? The Bureau of Labor Statistics publishes three price indices which may be used to compare price changes in the Michigan market with price changes in the national market. These price indices are shown in Table Three.

TABLE THREE

BLS NATIONAL PRICE INDICES FOR MALT BEVERAGES OCTOBER 1978-NOVEMBER 1980

	Producer Price Index Malt Beverages		Consumer Price Index All Urban Consumers
	Beer 11/12 Ounce Bottle	Beer 11/12 Ounce Can	Beer And Ale
	(1967 = 100.0)		
October 1978	159.6	146.8	158.6
November 1979	172.6	162.1	176.9
November 1980	185.1	171.9	192.0

The BLS national price indices shown above may be converted to index numbers with October 1978 as the base. These index numbers are shown in Table Four.

TABLE FOUR

BLS NATIONAL PRICE INDICES FOR MALT BEVERAGES OCTOBER 1978-NOVEMBER 1980

	Producer Price Index Malt Beverages		Consumer Price Index All Urban Consumers
	Beer 11/12 Ounce Bottle	Beer 11/12 Ounce Can	Beer And Ale
	(October 1978 = 1.0000)		
October 1978	1.0000	1.0000	1.0000
November 1979	1.0815	1.1042	1.1154
November 1980	1.1598	1.1710	1.2106

Notice that nationally, between October 1978 and November 1980 the price the wholesaler had to pay the brewer for malt beverages increased 16.0 percent for bottles and 17.1 percent for cans. The price the national consumer had to pay the retailer increased 21.1 percent.

Table Five compares the changes (i.e., increases) of prices in Michigan with the corresponding national price changes. This table was prepared by dividing the appropriate Michigan price index number shown on Table Two by the corresponding national price index number from Table Four. The ratios (i.e., relative prices) shown on Table Five compare October 1978-November 1980 increases in malt beverage prices in Michigan with the corresponding national price increases.

TABLE FIVE

RELATIVE PRICE INDICES, MALT BEVERAGE PRICES IN MICHIGAN VS. NATIONAL MARKET OCTOBER 1978-NOVEMBER 1980

	Producer Price Index Malt Beverages		Consumer Price Index All Urban Consumers
	Beer 11/12 Ounce Bottle	Beer 11/12 Ounce Can	Beer And Ale
	(October 1978 = 1.0000)		
October 1978	1.0000	1.0000	1.0000
November 1979	0.9730	0.9440	1.0439
November 1980	0.9759	0.9553	1.0524

Consider Table Five. Between October 1978 and November 1979 the price that Michigan wholesalers paid for malt beverages packaged in 12 ounce metal cans increased 4.2 percent (i.e., the index number shown in Table Two is 1.0424). Nationally the price a wholesaler paid for 12 ounce metal cans increased 10.4 percent (i.e., the index number shown in Table Four is 1.1042). If we divide the Michigan price index number by the national price index number, we get 0.9440 (i.e., 1.0424/1.1042 = 0.9440), the relative price index shown on Table Five.

Between October 1978 and November 1979 the brewer F.O.B. price to wholesalers for malt beverages packaged in 12 ounce metal cans increased 10.4 percent nationally but only 4.2 percent in Michigan, on a relative basis the brewer F.O.B. price to wholesalers in Michigan declined 5.6 percent (i.e., 0.9440 - 1.0000 = -0.0560). During the same period the retail price of malt beverages increased 4.4 percent on a relative basis (i.e., 1.1644 / 1.1154 = 1.0439). This is an important point.

From Table Five it is clear that since the mandatory deposit law the retail price for malt beverages in Michigan have increased faster than national retail prices for malt beverages. Between October 1978 and November 1979, however, the corresponding wholesale (i.e., brewer F.O.B. prices) for malt beverages in Michigan increased at a significantly lower rate than the corresponding national price increases. Between November 1979 and November 1980 the brewer F.O.B. prices for malt beverages shown on Table One increased 7.6 percent for 12 ounce bottles and 7.3 percent for metal cans. This compares to a national increase of 7.2 percent and 6.1 percent respectively, computed from the BLS price indices shown on Table Three. The result, as shown on Table Five, is that Michigan wholesalers were charged less for their malt beverages during the October 1978-November 1980 period than they would have been charged, had brewer F.O.B. prices in Michigan increased at the same rate as brewer F.O.B. prices increased nationally.

We believe the results shown in Table Five are completely consistent with the results we would have expected on the basis of the analyses developed in our August 8, 1978 Working Paper (Attachment B). The increase in retail malt beverage prices in Michigan relative to the increase in retail malt beverage prices nationally confirms our August 1978 estimate that malt beverage prices under a returnable system would be approximately 5.0 percent higher than they would be under a "free" (i.e., non-mandatory deposit) system. As shown above, the retail price for malt beverages purchased in November 1980 for off-premise consumption in Michigan was 5.24 percent higher than it would have been if retail malt beverage prices in Michigan had increased at the same rate that retail malt beverage prices increased nationally between October 1978 and November 1980.

If GAO's Michigan post mandatory deposit law package mix estimates are correct we estimate that the relative retail price disadvantages shown in Table Five cost the Michigan malt beverage consumer approximately 40.0 million dollars in higher malt beverage prices during 1980. We believe this estimate is conservative. We can only hope that the benefits received in the form of reduced litter and resources conserved were worth the 40.0 million dollars Michigan beer drinkers paid.

Our highly critical view of the first GAO report is equally applicable to their present report (see page 74 of Attachment A). We doubt if the late E. F. Schumacher would have approved of the second GAO report.

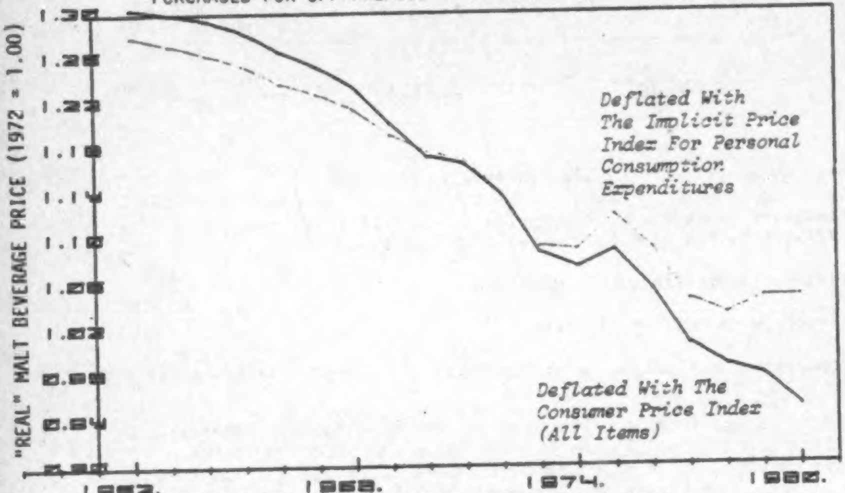
Where do we go from here? We believe that the second GAO report contributes little if any new evidence useful in resolving the mandatory deposit law/bottle bill arguments that have gone on for the last ten years. GAO has missed an opportunity to make a real contribution by preparing a complete total systems analysis of the malt beverage production/distribution process. The second GAO report merely presents a series of individual analyses that, at best, address only bits and pieces of the total problem. GAO appears to have completely ignored the brewing industry's arguments developed in Attachments A and B (the evolution of which are clearly shown in the *U.S.B.A. Reference Source Book*, *Research Materials Supporting The United States Brewers Association's Arguments Against Restrictive Packaging Legislation*) and continue to base their economic analyses on a series of assumptions and estimates that are incorrect. That is, the GAO "economic model" describes the way some GAO analysts believe the malt beverage production/distribution system *should* work and not the way the system *actually* works.

We cannot understand how GAO could publish a report in December 1980, after receiving our critical comments on their earlier report, that did not provide explicit estimates of the dollar cost of the Michigan mandatory deposit law to Michigan consumers. We believe this is a fundamental question that must be answered. We also found it difficult to understand the true value of GAO's three Michigan beer consumption models (Chapter 4, pp.24-29 and Appendix II, pp.60-67). A cynical colleague wondered if the GAO analysts included this highly sophisticated model to comply with the old debating maxim, *"If you cannot defeat your opponent with your logic, try to dazzle him with your foot work"*. From a purely technical point of view the three Michigan malt beverage models are the most interesting and only really new material in the report. We are concerned, however, that these models may in fact only confuse the issue rather than shed light on the problem.

The models attempt to use modern econometric techniques to "explain" the factors which influenced the post mandatory deposit law decline in Michigan malt beverage sales. As a theoretical exercise we think these analyses are excellent, but we question the true (i.e., real world) significance of the results. The models shown are three from a set of many models which would be equally acceptable on the basis of any reasonable set of a priori criteria. The problem is that other equally logical models would produce significantly different results.

Consider the following example. We asked GAO for the basic data shown on Figures 1-4 (page 26) of their report which we presumed were used to develop these models. Exhibit One is a xerox copy of the Table they provided. Column (b) shows the "real beer price index" used in their models. This index was derived by dividing the BLS Consumer Price Index (CPI) Beer and Ale component price by the BEA implicit price index for personal consumption expenditures (not the CPI as shown in the Table footnote b). The chart below compares the "real" beer price index used in the GAO report (brought up to date through 1980), the light curve, with a "real" beer price index derived by deflating the beer and ale component index by the total (i.e., all items) CPI (with the base shifted to 1972 = 100.0 to be comparable to the GAO series).

TWO MEASURES OF THE "REAL" PRICE OF MALT BEVERAGES PURCHASED FOR OFF-PREMISE CONSUMPTION 1962-1980



R. B. WEINBERG AND ASSOCIATES

We recognize the current weaknesses of the total CPI index and will not argue which index, the PCE implicit price index or CPI, is indeed the more appropriate index to use to derive the "best" index of "real" malt beverage prices (in fact we use both indices in our own studies) but want to make clear the point shown on the chart above. Since 1978 the "real" price index derived by using the total CPI index continued to decline

EXHIBIT ONE

	a	b	c	d	e
1962	5.219	128.125	3,333.300	6.400	3.998
1963	5.187	127.309	3,450.200	5.300	4.052
1964	5.472	126.684	3,672.400	4.700	4.112
1965	5.521	125.551	3,942.000	4.000	4.187
1966	5.744	123.960	4,106.500	3.700	4.253
1967	5.805	123.001	4,139.600	4.400	4.300
1968	5.993	121.513	4,360.900	4.300	4.327
1969	6.025	119.231	4,491.800	4.100	4.363
1970	6.256	117.730	4.370.300	6.800	4.417
1971	6.301	116.874	4.530.300	7.600	4.491
1972	6.496	113.900	4,810.700	7.000	5.074
1973	6.759	109.573	5,069.100	5.800	5.159
1974	6.843	109.376	4.976.200	7.500	5.236
1975	7.044	110.997	4,754.200	12.500	5.296
1976	7.124	108.208	5.092.800	9.400	5.367
1977	7.283	103.917	5,408.400	8.200	5.448
1978	7.292	102.735	5.661.200	6.900	5.524
1979	7.026	104.103	5,583.800	7.800	5.635

a - Beer consumption in million barrels in Michigan

b - Real beer price index (Beer price index with 1967 base deflated by CPI with 1972 base) (national Series)

c - Real per capita income in Michigan

d - Unemployment rate in Michigan

e - Population in Michigan in millions (21 - 64 years old except 18 - 64 in 1972-1978)

while the "real" price index derived by using the PCE implicit deflator increased significantly in 1979 and very modestly in 1980. We do not wish to begin an argument on which price index is the "best" deflator but rather to just demonstrate how the very selection of a price index can affect the final result.*

Examining the GAO data (Exhibit One) we were puzzled by the four figures shown on page 26 of the report. These figures are reproduced below (Exhibit Two). The data plotted on the charts differ from the data shown in Exhibit One. We reproduced the GAO figures and used our data plotter to plot the appropriate data from Exhibit One over GAO's curves. The results of this exercise are shown in Exhibit Three. From Exhibit Three it is clear that in preparing their four figures the GAO analysts either plotted only every other data point or plotted some smoothed version of the basic data. Why?

Bob

R. S. Weinberg

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* *This is an extremely important point that is often difficult for an inexperienced analyst or layman to appreciate. Based on an empirical analysis fully discussed in a technical note below (page 16) we believe that for the present kind of analysis the use of the BEA implicit price index for personal consumption expenditures as the deflator for computing the "real" price of malt beverages is completely wrong and that the use of this index invalidates the three GAO models.*

EXHIBIT TWO

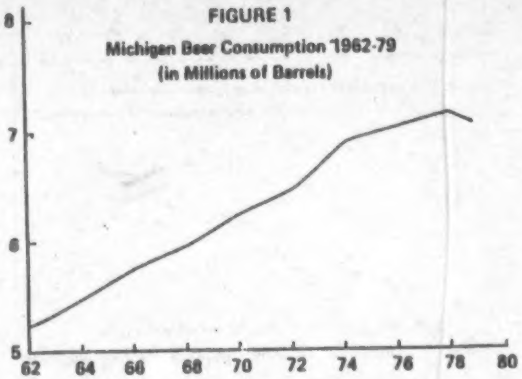

FIGURE 1

Michigan Beer Consumption 1962-79
(in Millions of Barrels)

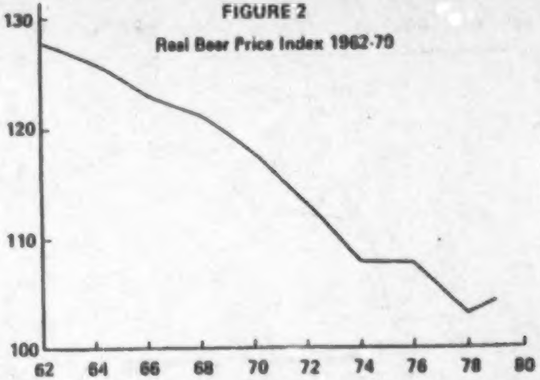

FIGURE 2

Real Beer Price Index 1962-79

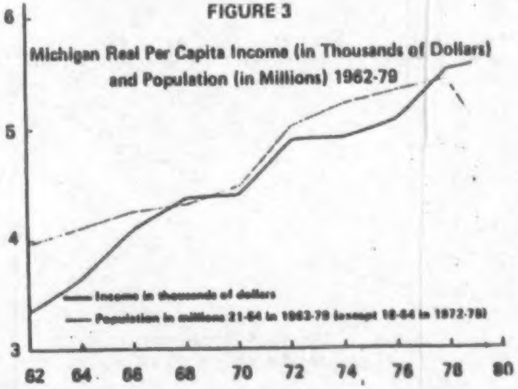

FIGURE 3

Michigan Real Per Capita Income (in Thousands of Dollars)
and Population (in Millions) 1962-79

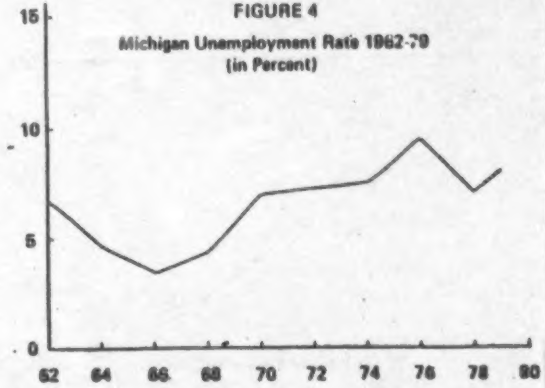

FIGURE 4

Michigan Unemployment Rate 1962-79
(in Percent)

EXHIBIT THREE

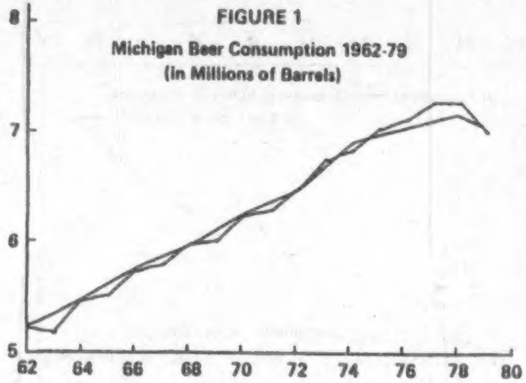

FIGURE 1

Michigan Beer Consumption 1962-79
(in Millions of Barrels)

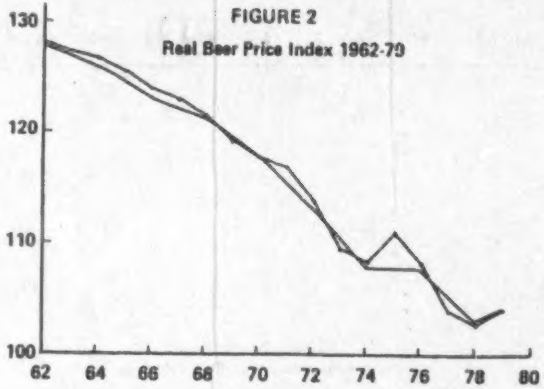

FIGURE 2

Real Beer Price Index 1962-79

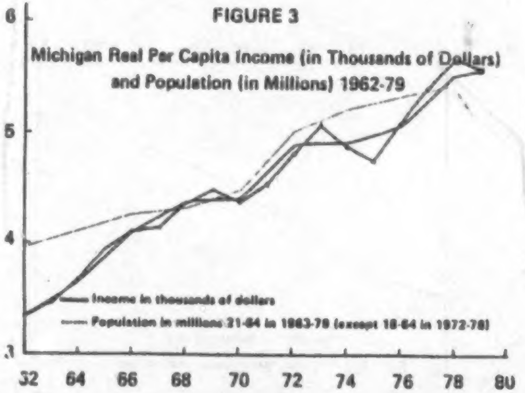

FIGURE 3

Michigan Real Per Capita Income (in Thousands of Dollars)
and Population (in Millions) 1962-79

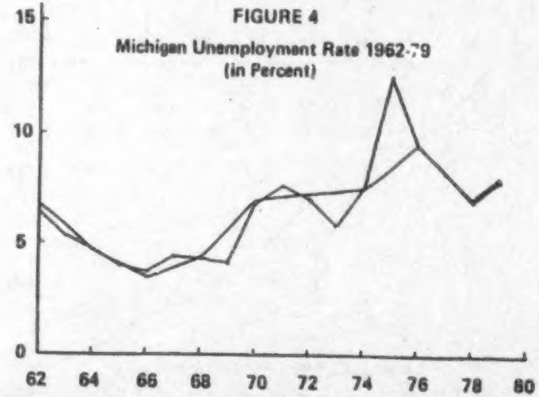

FIGURE 4

Michigan Unemployment Rate 1962-79
(in Percent)

TECHNICAL NOTES

This section will develop two technical notes. The first note will demonstrate why we question the use of the BEA implicit price index for personal consumption expenditures (PCE) rather than the BLS Consumer Price Index (CPI) as the deflator for deriving an index of the "real" price of malt beverages to be used in a demand model for the 1979-1980 period. The second note develops a comparison of the Consumer Price Index for Food and Beverages in the Detroit, Michigan Standard Metropolitan Statistical Area with its National counterpart to validate the analyses developed on Pages 6-9 above.

Our discussion on pages 11 and 13 called attention to the fact that the GAO malt beverage demand models used an index of the "real" price of malt beverages derived by dividing the CPI beer and ale component by the BEA implicit price index for personal consumption expenditures. The GAO models are the first published analyses we have seen that used a real price index derived in this manner. All of the published studies have used a "real" price index derived by dividing the CPI beer and ale component by the BLS total (i.e., all items) CPI. As shown on the chart on page 11, the trend and direction of these two "real" price indices changed after 1978. That is, while both indices followed the same general trend from 1962 through 1978, in 1979 and 1980 the indices moved in different directions.

The issue is which of the two indices is the "best" index to be used in a malt beverage demand model designed to "forecast" malt beverage demand in the past 1978 period (i.e., the post Michigan mandatory deposit law period). We have taken a completely emperical approach in attacking this problem. We will assume that malt beverage demand measured in terms of total national malt beverage consumption (i.e., taxpaid removals plus imports) per adult (eighteen years of age and older) is a function of two variables: (1) per capita disposal personal income measured in 1972 dollars and (2) the "real" price of malt beverages. Two multiple linear regression demand relationships were developed covering the seventeen year period 1962-1978. The first relationship used a "real" price index based on the BEA/PCE deflator. The second relationship used a "real" price index based on the BLS/CPI deflator. The equations for these relationships are as follows:

Relationship One

$$MBC/POP_{18+} = 1.2169 + 0.1007\ DPI/POP_{72\$} - 0.5715\ RP_{PCE}$$

(741.8)   (5.6)

$r^2 = 0.9816$ F Ratio = 373.7

Relationship Two

$$MBC/POP_{18+} = 1.2433 + 0.0812\ DPI/POP_{72\$} - 0.5322\ RP_{CPI}$$

(1028.2)   (13.1)

$r^2 = 0.9867$ F Ratio = 520.7

Where:

MBC/POP_{18+} = Malt Beverage Consumption per Adult, Eighteen Years of Age or Older (barrels)

$DPI/POP_{72\$}$ = Per Capita Disposable Personal Income (Thousands of 1972 constant dollars)

RP_{PCE} = CPI Beer and Ale (1967=100.0) divided by the BEA Implicit Price Index for Personal Consumption Expenditures (1972 = 100.0)

RP_{CPI} = CPI Beer and Ale (1967=100.0) divided by the BLS, CPI, All Items (with the based shifted to 1972 = 100.0)

The table below compares the malt beverage demand estimates derived from the two demand relationships shown above with actual malt beverage demand.

	Estimated Malt Beverage Demand		Actual Malt Beverage Demand	Actual Minus Equation I Estimate	Actual Minus Equation II Estimate
	Equation I	Equation II			
	(barrels per adult, eighteen years of age and older)				
1962	0.7739	0.7815	0.7728	-0.0011	-0.0087
63	0.7800	0.7855	0.7857	+0.0057	+0.0002
64	0.8009	0.8013	0.8176	+0.0167	+0.0163
65	0.8211	0.8186	0.8163	-0.0047	-0.0023
66	0.8424	0.8376	0.8349	-0.0075	-0.0027
1967	0.8583	0.8533	0.8440	-0.0143	-0.0093
68	0.8766	0.8712	0.8663	-0.0104	-0.0049
69	0.8967	0.8942	0.8894	-0.0073	-0.0048
70	0.9155	0.9182	0.9152	-0.0003	-0.0030
71	0.9288	0.9294	0.9390	+0.0102	+0.0096
1972	0.9578	0.9530	0.9533	-0.0045	+0.0003
73	1.0071	0.9987	0.9853	-0.0218	-0.0134
74	1.0028	1.0006	1.0187	+0.0159	+0.0181
75	0.9905	0.9969	1.0240	+0.0335	+0.0271
76	1.0185	1.0245	1.0220	+0.0035	-0.0025
1977	1.0565	1.0600	1.0481	-0.0084	-0.0119
78	1.0796	1.0827	1.0744	-0.0052	-0.0083
			Average Deviation	0.0101	0.0084

From the table shown above it is clear that both demand relationships yield estimates that are quite close to actual consumption. Both equations "forecast" a 1975 decline in malt beverage consumption which did not take place and both equations missed the 1976 decline. The first relationship yielded a larger deviation than the second in 12 of the seventeen years. The average deviation of the estimates generated from the first relationship was 0.0101 barrels per adult per year, 20.2 percent larger than the average deviation of the estimates generated from the second relationship. Based on the coefficients of determination (i.e., the r^2 statistics), the F Ratios and the partial F Ratios (shown in the parenthesis below each repression coefficient) the relationship based on RP_{CPI} is superior to the relationship based on RP_{PCE}.

We would prefer a more pragmatic test. Which relationship generated a better forecast of 1979 and 1980 malt beverage consumption? That is, we have two statistical relationships "fitted" to 1962-1978 data. Assume that in 1979 we had been able to forecast per capita disposable personal income in 1972 dollars and our two alternative indices of the "real" price of malt beverages perfectly for the years 1979 and 1980. Which relationship would have generated the closest forecast of malt beverage demand?

Relationship One, based on the "real" price index derived using the BEA implicit price index for personal consumption expenditures, generates the following "forecasts" for malt beverage consumption (barrels per adult eighteen years of age and older):

1979 1.0811 1980 1.0782

Relationship Two, based on the "real" price index derived by using the BLS consumer price index, all items, generated the following "forecasts" for malt beverage consumption (barrels per adult eighteen years of age and older):

1979 1.0955 1981 1.1078

Actual malt beverage consumption in 1979 and 1980 was 1.0955 and 1.1111 barrels per adult respectively. The table below compares the 1979 and 1980 "forecasts" derived from Relationships One and Two with actual malt beverages consumption (barrels per adult eighteen years of age and older):

	"Forecast" From Relationship One	"Forecast" From Relationship Two	Actual	Deviation* From Relationship One	Deviation* From Relationship Two
1979	1.0811	1.0955	1.0955	+0.0144	0
1980	1.0782	1.1078	1.1111	+0.0329	+0.0033

* Actual-Forecast

Between 1979 and 1980 adult per capita consumption of malt beverages increased 1.42 percent. Relationship One forecast a 1.58 percent decline while Relationship Two forecast a 1.12 percent increase (i.e., 1.0782/1.0955 = 0.9842 -1.0000 = -0.0158 and 1.1078/1.0955 = 1.0112 -1.0000 = 0.0112).

For 1979, Relationship Two generated a perfect "forecast" while the "forecast" generated by Relationship One was off by 0.0144 barrels or 1.3 percent. The 1980 "forecast" derived from Relationship One was 0.0329 barrels (2.96 percent) too low while the "forecast" derived from Relationship Two was only 0.0033 barrels (0.33 percent) too low. The 1980 "forecast" error for Relationship One was almost ten times (i.e., 9.97) greater than the "forecast" error for Relationship Two.

From the above analysis it is clear that for the current economic situation the "real" price index for malt beverages derived by dividing the CPI beer and ale component by the total (all items) CPI is a more realistic and appropriate "real" price index than the index derived using the implicit price index for personal consumption expenditures.

The latter price index yields an unrealisticly low "forecast" or expected value for malt beverage consumption in 1979 and 1980. We believe that had the GAO analysts used the more appropriate "real" price index for malt beverages based on the total (all items) CPI, their results would have been significantly different. For this reason we question the validity of their three Michigan malt beverage demand models.

On pages 6-9 we developed a simple analysis to demonstrate that malt beverage prices in Michigan had increased as a result of the mandatory deposit law. This analysis merely related the increase in malt beverage prices in Michigan to the increase in malt beverage prices nationally. This analysis implicitly assumed that had it not been for the Michigan mandatory deposit law, malt beverage prices in Michigan would have increased proportionally to the increase in malt beverage prices nationally as measured by the CPI beer and ale component.

The Bureau of Labor Statistics publishes an area consumer price index measuring prices in the Detroit, Michigan Standard Metropolitan Statistical Area (SMSA). We may use this index to verify our implicit assumption of proportional price increases. The table below compares the food and beverage component and food component of the Detroit, Michigan CPI with their National counterpart for October 1978, November 1979 and November 1980 (index numbers 1967 = 100.0).

	Detroit, Michigan SMSA CPI		National CPI	
	Food and Beverages	Food	Food and Beverages	Food
October 1978	207.2	210.0	211.6	216.8
November 1979	226.7	229.6	233.1	239.1
November 1980	250.5	254.1	257.4	264.5

For the purposes of comparison and for comparability with the analyses developed on pages 6-9 we may convert the BLS index numbers shown above to index numbers with a common base October, 1978 = 1.0000. These index numbers are as follows (October, 1978 = 1.0000):

	Food and Beverages		Food	
	Detroit	National	Detroit	National
October 1978	1.0000	1.0000	1.0000	1.0000
November 1979	1.0941	1.1016	1.0933	1.1029
November 1980	1.2090	1.2164	1.2100	1.2200

Notice that between October 1978 and November 1980 food and beverage prices and food prices in the Detroit, Michigan SMSA increased at a slightly slower but almost proportional rate to National prices. We believe that this comparison validates our analyses by confirming our implicit assumption that without mandatory deposits, increases in malt beverage prices in the Michigan market would have been essentially proportional to increases in the National beer and ale CPI component index. In fact, the above analysis would suggest that the increase in Michigan malt beverage prices without mandatory deposits would actually have been slightly less (about 96.0 to 97.0 percent) than the national price increase, making our analyses conservative.

The **Chairman**. Next, we will take the representative of the Adolph Coors Co., Mr. Joe Lamb.

STATEMENT OF JOE LAMB, VICE PRESIDENT OF THE MATERIEL AND TRANSPORTATION DIVISION, ADOLPH COORS CO., GOLDEN, COLO.

Mr. **Lamb**. Thank you, Mr. Chairman.

The **Chairman**. Go right ahead, Mr. Lamb.

Mr. **Lamb**. My name is Joe Lamb. I'm vice president of Materiel and Transportation Division of Adolph Coors Co. and executive vice president of Golden Recycle, a wholly owned subsidiary of Adolph Coors Co., which is dedicated to beverage container recycling.

Adolph Coors Co. believes that the only practical approach and the best approach to container recovery is through voluntary recycling. We have proven that this can and will work in a voluntary mode. In 1980, approximately 75 percent of all aluminum cans marketed by Coors, or the equivalent in other brands, were recycled by Coors.

During the past 10 years, Coors has collected 610 million pounds of used beverage cans and paid approximately $132 million to American consumers. As a result of voluntary participation in this program, American consumers have benefited financially and have, at the same time, recycled a critical national resource.

In 1980, Coors recycled 93 million pounds of aluminum and paid over $26 million to individuals and organizations for the recycling efforts. Additionally, since 1979, Coors has recycled 29 million pounds of glass and is actively trying to expand its programs.

It is Coors' philosophy that recycling is a responsibility and a cost of doing business. Webelieve voluntary recycling is rapidly approaching a legitimate revenue or cost-savings opportunity for those of us concerned with materiel costs.

Adolph Coors Co. has opposed and will continue to oppose all attempts to enact container legislation at the State or local levels. If it is determined that the best interests of society are to be served by deposit legislation, then it must occur at the Federal level. On that basis, Coors endorses section 4 of S. 709, which provides for uniform deposits for all packages. However, our company believes the consumers best interests are served through voluntary recycling rather than the enactment of any mandatory deposit legislation.

In our opinion, the most serious shortcoming of Senate bill 709 is the lack of any encouragement for voluntary recycling. In effect, this legislation mandates something without giving voluntary recycling some encouragement or chance to really do the job.

On that basis, we're proposing an amendment to S. 709 which would exempt any container type from deposit provisions of this act which is proven by some agency of the Government to be recycled at an 80-percent level and that we continue this exemption as long as this kind of voluntary recycling effort could be maintained.

We are confident that on a voluntary basis, both the consumer and industry, brewers, aluminum suppliers, glass company, steel, can achieve these goals and will achieve them as the momentum is already there. Recent events in the last years particularly have shown that volunteer recycling is on the upswing. Starting from a very small base in Colorado, today there are over 1,500 retail stores, grocery stores, buying aluminum cans from the public in their stores on a voluntary basis and most importantly, making money on it, in addition to selling their consumer services.

Coors has also invested in a variety of technologies, one of which I've brought with me today to show this committee. This is a reverse vending machine for recycling. We're calling it a Can Bank. In effect, the consumer puts cans in it. It acts much like a bank terminal and it gives cash on the spot. It sits in a grocery store parking lot and by spring, we're going to have 50 of these in the Denver metropolitan area.

The CHAIRMAN. I understand that that machine can differentiate between kinds of cans and weights of cans and gives you a different amount of money for each one.

Mr. LAMB. It differentiates between steel and aluminum cans. It will not overpay for weighted cans. It sorts out a variety of interesting things that the public tries to put through the machine.

Our company has a trophy case filled with a variety of items that we've taken from similar machines. This is but one approach. Other companies are also developing and implementing various recycling programs. There is only one cloud on the horizon for this kind of technology: It's not the economics; it's not the basic technology; it's not consumer acceptance; it's, in fact, the threat of being legislated out of business.

The CHAIRMAN. How big is that machine?

Mr. LAMB. This machine is 13 feet long and almost 10 feet tall. It takes up a full parking spot in a supermarket parking lot. It will be able to store 3,000 to 4,000 pounds of aluminum cans.

But essentially, what we're saying is that voluntary recycling is solving the problem. Deposit legislation at any level is not necessary today and it will be even less necessary tomorrow.

But in any case, if Congress determines that legislation similar to S. 709 needs to be enacted, we would ask that every consideration be given to putting incentives in this legislation to encourage what we consider a very strong trend to more voluntary recycling.

The CHAIRMAN. I was intrigued with your amendment. I think it has merit. I think we could live with it. I would just as soon have this done on a voluntary basis by the companies involved, if they would cooperate.

But I want to make sure that I understand your percentages. About 75 percent of the aluminum cans marketed by Coors are recycled; is that right?

Mr. LAMB. Yes, directly by our Golden Recycle subsidiary.

The CHAIRMAN. Right. But if in addition you sell 100 cans, you recycle 75. But if another 1,000 cans of root beer and orange soda and whatnot are sold, you're not necessarily recycling 75 percent of those.

Mr. LAMB. No, Senator. What we're saying is that if we put out 100 cans, we will get 75 cans back. They may not be exactly our cans. It will be from any source.

The CHAIRMAN. Right.

Mr. LAMB. We have observed in nondeposit States within Coors' marketing area that voluntary recycling programs are extremely competitive. Adolph Coors Co. believes that a 75 to 80 percent rate of return on a voluntary basis is possible for all metal containers.

The CHAIRMAN. Well, as I recall your amendment, the threshold is 80 percent, isn't it?

Mr. LAMB. Yes.

The CHAIRMAN. Well, if we could get 80 percent voluntary recycling on cans and bottles, it's a high figure, it's a very high figure by any standard today if you look at the national average of recycling.

Mr. LAMB. Yes, Senator.

The CHAIRMAN. And I have to take my hat off to Coors. I think we could put that amendment in the bill and effectively solve the problem, but it would mean that the industry is going to have to get together and do it on a uniform basis.

Mr. LAMB. Yes, Senator; we understand that.

The CHAIRMAN. Let me make sure—assuming that the 80-percent threshold is in the bill, your preference is still to move toward the voluntary recycling. But you think you could live with the bill if it had the 80-percent threshold in it. And, in any event, what you don't want is one more State, one more State, one more State, half a dozen counties, 15 or 20 cities, all passing deposit legislation, all of which varies.

I made reference to your testimony before where you talk about your problem in Iowa of having to literally refigure your line so that you can produce for the Iowa market. That will become eventually the biggest headache for producers.

Mr. LAMB. Yes, Senator. In fact, we're rapidly approaching the threshold relative to the number of additional States it will take to push the deposit question to the point where it will have to be addressed at the Federal level. Iowa is the only State in our market area which has enacted such legislation. As you know, Coors beer is not marketed in Oregon. As we look at expanding our market territories, there is no way we can cope with the proliferation of deposit laws in 43 additional States. It becomes a logistical and inventory nightmare to maintain, control, and incur the added cost of customized packaging for individual States.

The CHAIRMAN. I said it in 1978 and I said it again this morning: The day is going to come when the national industries are going to ask Congress for uniform legislation, assuming that it is not recycling legislation, as we hit 10 States, 12 States, 14 States. I don't know what the tipping point is, but it's bound to come at some stage.

Mr. LAMB. If it continues to go State by State, there will come a point that the industry will have to face up to the issue. That's our opinion.

The CHAIRMAN. I don't believe, Mr. Lamb, I have any more questions. I appreciate the depth of your testimony. It was very good. Again, I had a chance to read it this morning, although I did not experience the Can Bank this morning. Those are operating now?

Mr. LAMB. We have one prototype now. We are within 2 weeks of committing to production for 50 units to be installed in Denver by early spring.

The CHAIRMAN. Did Coors design it themselves?

Mr. **Lamb**. Yes; Senator, this is our own design, our own engineering that went into it, and we expect it to be extremely successful. We've worked with other machines and consumer acceptance is just tremendous. They enjoy working with machines. The American public generally feels that they know everything there is to know about vending machines. They enjoy the experience.

The **Chairman**. I am very intrigued. You say it can tell whether you've weighted a can or not. You can't put rocks in it and get more money out of it because it weighs more. If you can make that machine work, with the varieties of things that can be fed into it, I, for the life of me, can't understand why we can't make our subway fare card machines work.

Mr. **Lamb**. That has not been assigned to Coors engineering.

The **Chairman**. Thank you very much, Mr. Lamb. I appreciate it.

Mr. **Lamb**. Thank you, Senator.

[The statement follows:]

STATEMENT OF JOE LAMB, VICE PRESIDENT, MATERIEL AND TRANSPORTATION DIVISION, ADOLPH COORS CO., AND EXECUTIVE VICE PRESIDENT, GOLDEN RECYCLE CO., A SUBSIDIARY OF ADOLPH COORS CO.

Mr. Chairman and members of the committee, I am Joe Lamb, vice president of the Materiel and Transportation Division of the Adolph Coors Company. I am also executive vice president of Golden Recycle Company which is a subsidiary of the Adolph Coors Company. We very much appreciate the opportunity to comment on S. 709, the "Beverage Container Reuse and Recycling Act."

Presently, the Adolph Coors Company believes that the only practical approach to container recovery is through voluntary recycling. Aluminum cans are already being recovered this way in sufficient numbers as to challenge the need for mandatory deposits on them. Industry, and in particular the Adolph Coors Company, has developed an effective recycling system for aluminum cans which, instead of relying upon governmental coercion, provides incentives for voluntary participation. However, as of this date, industry efforts to recycle steel cans and bottles have not been as successful as the aluminum can recycling program. It is incumbent upon the carbonated beverage industry to establish equally effective systems for steel cans and glass bottles. When this is accomplished, the need for mandatory container deposits will have been eliminated.

Over 85 percent of Coors beer containers for off-premise consumption are aluminum. Coors was the originator of aluminum can recycling starting in 1959 and has been the front runner in terms of cans recycled ever since. In 1980 approximately 75 percent of all aluminum cans marketed by Coors or the equivalent in other brands found their way back to Coors recycling centers.

In 1970, Coors began its full scale "cash for cans" program. Each of our 310 Coors distributors participate in this program. They have established recycling centers in their communities to collect and pay for aluminum cans returned by individual consumers or community groups. During the past ten years the company has collected approximately 610 million pounds of used beverage cans and paid approximately $132 million to the American consumer. In 1980, 93 million pounds of aluminum were recovered primarily through the over 300 collection centers in 20 states. Coors paid out over $26 million to individuals and organizations for their voluntary recycling efforts. The price Coors pays for the recycled aluminum reflects the importance of this natural resource. For example, in 1970 consumers received 10 cents per pound for aluminum cans. As of October 15, 1981, they received 26 cents per pound for aluminum cans.

The Adolph Coors Company is also committed to the recycling of glass bottles. Since 1979, we have recycled 29 million pounds of glass. The Coors Company recycles approximately 12 percent of our off-premise bottles and between 80 to 90 percent of our on-premise or bar bottles. Currently, the American consumer receives 1 cent per bottle recycled.

The Adolph Coors Company believes it is the responsibility of industry to develop and implement viable recycling programs. It is the Coors philosophy that recycling is a "cost" of doing business.

Participation in the Coors recycling program benefits the American consumer. It costs the consumer nothing but allows him or her to collect additional money for recycling. Under a mandatory deposit system, the consumer does not gain any additional benefits for his efforts. The customer must first pay the deposit and, upon returning the container is only refunded the original deposit.

The Adolph Coors recycling program is just one example of the Coors commitment to the preservation of our nation's environment. As a result of this program, the American public has seen less and less litter along the highways. In addition, through voluntary participation in this program, countless individuals, service organizations, civic clubs, and schools have financially benefited from the "Coors recycling program."

Based on current experience with mandatory deposit systems, recent advances in recycling technology and the inflationary aspects of a mandatory deposit system, we believe the consumer benefits more from a voluntary recycling system such as the "Coors recycling program" as opposed to a mandatory deposit system.

It should be noted that a mandatory deposit system creates serious dislocations in the established patterns for distribution of beverage products. Such a deposit system results in increased costs at every level from producer to retailer outlet. Ultimately, the consumer bears the increased burden.

STATE OR LOCAL DEPOSITS

Current experience in those states with a mandatory deposit system already indicates the direct influence which mandatory deposits have on prices of beverages.

For example, Iowa is a Coors marketing State which has adopted State mandatory deposit legislation. The deposit provisions in this State result in increased production costs to our company. The Iowa mandatory deposit provisions require can lids and bottle caps which do not normally appear on Coors cans and bottles. To meet the Iowa deposit requirements, we must shut down and retool a production line each time we distribute beer to Iowa. This retooling process requires the services of four men and takes four hours.

Wholesaler and retailer costs also increase as a result of State mandatory deposit legislation. The major contributing factor to these increased prices are the additional costs incurred in collecting, sorting, processing, and transporting returned containers.

Of course, it is the consumer who must finally bear the brunt of these increased costs. The Iowa department of environmental quality has completed a beverage price survey of retail grocery store price changes in Iowa to determine the impact of the Iowa beverage deposit law. The survey data indicates that due to the law, beer prices rose approximately 3.3 cents per 12-ounce can and 2 cents per 12-ounce bottle. Past experience with State deposit laws clearly proves the enactment of such legislation results in higher consumer prices.

In the voluntary system, sorting, collecting, and processing problems are minimized since we are buying back materials, not individual containers. Thus, rather than certain cost increases under deposits, we feel an expanded voluntary recycling effort by a broader base of participants is a far better solution. Operating in the free market to acquire and recycle scrap materials allows the public to be paid directly with new money flowing into the community for a recyclable material.

This recent experience with mandatory deposits on carbonated beverage containers in mandatory deposit States serves notice upon the carbonated beverage industry that there is no way it can cope with the proliferation of deposit laws in 43 additional States. Therefore, any brewer or soft drink packager engaged in substantial interstate commerce, as is Adolph Coors Company, has no choice but to oppose mandatory deposits on its carbonated beverage containers imposed at the State and local levels.

Therefore, Adolph Coors Company has opposed and will continue to oppose any and all attempts to enact container deposit legislation at the State or local levels.

RECYCLING—AN INDUSTRY RESPONSIBILITY

We believe that industry must be responsible for restructuring its packaging systems to minimize the need for natural resources and energy. Coors' record proves that we have met that responsibility for the materials that we have put into the marketplace through the operation of our voluntary recycling program. We continue to encourage our competitors to join with us in voluntary recycling and are pleased that more of them are beginning to do so. Admittedly, we still have a way to go, but we truly believe that a voluntary system can be even more successful, if the opportunity is given to develop it completely.

The Adolph Coors Company remains committed to voluntary recycling and believes it is the best practical approach to container recovery. In principle, we are opposed to restrictive packaging legislation of all types. But if it is determined that the best interests of society are to be served by a mandatory deposit on carbonated beverage containers, then it must be at the Federal level. Congress must then structure the legislation in such a way that in accomplishing its goals, it also minimizes the adverse impact on the carbonated beverage industry. This can be accomplished by:

1. Establishing uniform deposits on all carbonated beverage containers.
2. Reducing the retailer burden to a tolerable level by encouraging the co-mingling and crushing of cans and non-refillable bottles.
3. Equitably administering the unrefunded deposits and scrap value of the containers in such a way as to minimize the cost of operating the system.

ANALYSIS OF S. 709

The Hatfield-Packwood bill provides that the question of deposits will be addressed at the national level as opposed to State or local deposit legislation. The Coors Company agrees that any deposit legislation should be administered from the Federal level to prevent local regulations and a patchwork system requiring different methods of compliance at local and State levels. Specifically, there is no practical way that our industry can cope with a proliferation of municipal, county, and State imposed deposit systems each uniquely different in its requirements.

The Adolph Coors Company strongly endorses the section of S. 709 which provides that deposits will be uniform for all carbonated and beer containers. As a result of this provision neither aluminum, steel, nor glass is given an unfair position in the market place. We believe deposits should be imposed uniformly to all beverage containers so as not to discriminate between glass and cans. Any deposit legislation containing provisions for a two-tiered deposit serves no useful purpose toward achieving the objectives of deposit legislation. It is unreasonably punitive to our industry.

Such a two-tiered system discriminates in favor of a particular package and such a system legislates what will remain in the market. It does not allow the economics of the package to determine what will be in the market. Also, a two-tiered system does not allow R & D in packaging because a single type of container is legislated. Lastly, a two-tiered system does not always select the best package considering safety, conservation of energy, and conservation of natural resources.

A uniform deposit system, on the other hand, where the same deposit would be imposed on all the beverage containers, allows all beer and beverage packaging an equal opportunity in the market. A uniform system does not cause immediate shift of product mix nor immediate dislocation of employees. Additionally, a uniform system promotes competition between suppliers for the most efficient beer and beverage packaging under a returnable container system.

Any mandatory deposit system must reduce the retailers burden to a tolerable level by encouraging the co-mingling and crushing of cans and nonreturnable bottles. In a deposit system all bottles become returnable presumably for refilling and all cans become returnable obviously for recycling. It is the retailer and particularly the retailer who sells for "off premises" or home consumption, who then becomes the real loser. To most of these, the problem of receiving, accounting, sorting, storage, sanitation, and shipping out of empty redeemed carbonated beverage containers are all but insurmountable. Thus, the retailer's adamant opposition to mandatory container deposits is not only understandable, but completely justifiable.

The Hatfield-Packwood deposit bill does recognize the problems of the retailer with the inclusion of a 2 cent handling fee. Whether or not this fee is sufficient could be better answered from someone from the retail industry.

I would also like to comment on section 6 of the Hatfield-Packwood bill which contains the provision banning removable pull-tabs on metal containers. This provision bans pull-tabs for metal containers while it does not even address the issue of removable bottle caps. The committee should be aware that industry possesses the technology to place a plastic connector around the bottle cap which, once the consumer opens the bottle, will hold the cap next to the bottle. Of course, such a connector will result in higher production costs that must be passed onto the consumer. Such costs are not acceptable to either the producer or consumer.

Finally, the Adolph Coors Company believes the most serious shortcoming of S. 709 is the lack of any provisions encouraging voluntary recycling. As written, the "Beverage Container Reuse and Recycling Act" does not encourage the development of voluntary recycling programs. As we have previously stated, the Adolph Coors Company believes it is the responsibility of the carbonated drink industry to develop recycling programs which will conserve our natural resources and result in a cleaner environment. We believe S. 709 should be amended to encourage increased industry participation in voluntary recycling. This amendment would:

1. Exempt any container type from the deposit provisions of this act which is proven by the Environmental Protecton Agency and industry to be 80 percent recycled.
2. Authorize EPA to continue to monitor the percentage of a container type being recycled. If the recycling of a container falls below 80 percent, 1 year after this determination the container type would once again come under the deposit provisions of S. 709.

The adoption of this amendment would encourage the the carbonated drink industry to continue to develop voluntary recycling programs. Its adoption would result in lower costs to consumers and meet the "Beverage Container Reuse and Recycling Act's" objective of reduced litter and conservation of natural resources.

This amendment has important safeguards to insure industry recycles and continues to recycle at least 80 percent of a container type. The amendment encourages industry programs to continue to implement voluntary recycling programs. It also insures to those people who are skeptical of industry recycling programs that if industry fails to produce a viable recycling program, then the mandatory deposit provisions of S. 709 will become effective.

I hope this brief review of the Adolph Coors recycling program and the analysis of the "Beverage Container Reuse and Recycling Act" will be helpful to this committee and Congress in deciding the potential problems and effectiveness associated with such legislation.

The CHAIRMAN. Now we have a panel of the retail grocers: Ms. Grace Nome, J. Franklin Shank, and Daniel McBride.

Is Mr. McBride here?

[No response.]

The CHAIRMAN. Go right ahead. Ms. Nome, do you want to go first?

STATEMENTS OF GRACE NOME, EXECUTIVE DIRECTOR, CONNECTICUT FOOD STATES ASSOCIATION, WASHINGTON, D.C.; J. FRANKLIN SHANK, PRESIDENT OF TOWNE & COUNTRY FOODLAND, HAGERSTOWN, MD., REPRESENTING THE NATIONAL ASSOCIATION OF RETAIL GROCERS, WASHINGTON, D.C.

Ms. NOME. Yes, Senator Packwood. I'm Grace Nome, executive director of the Connecticut Food States Association. I'm here representing the Food Marketing Institute. FMI is a nonprofit association that conducts programs in research, education, and public affairs on behalf of their 100 members—food wholesalers and retailers and their customers in the United States and overseas.

FMI's domestic member companies operate over 17,000 retail food stores with a combined annual sales volume of over $1 billion, half of all the grocery stores in the United States. More than three-fourths of the FMI membership is comprised of independent supermarket operators or small regional firms.

All of you here have our testimony and before going into the testimony, I would like, with your permission, Mr. Chairman, to rebut some remarks that were made by a member of my State in Connecticut, Mr. Anderson. The committee that was formed, one of the questions asked, for people who lose their jobs, according to the bottle bill, in the first session, they appropriated $100,000. In the second session, they appropriated $90,000. However, the fund went bankrupt and they lost over half a million dollars.

The following session, because of very, very severe budgetary cuts, and all legislatures are going through this, every single person is facing this problem, in our State, the Connecticut Legislature could not afford to add another $350,000 onto this fund.

And so with cuts coming everywhere, this fund was dropped and there was no question that it had to be, not because of the need, but more because they just couldn't afford it.

The CHAIRMAN. That, I assume, is some kind of a retraining or rehabilitation or relocation fund. That fund doesn't necessarily mean that there's a net loss of jobs, does it?

Ms. NOME. Well, the problem with all of the figures that one gets in testimony like this is that everything sounds logical, all right? We can play with numbers any way we want to play with them. You know that and I know that.

The question with the bottle bill is there are some jobs gained at the lower level, but that it's very difficult to pinpoint down. From store to store, for instance, costs can be different. In your smaller store, as an example, you have your manager in a store and your manager, which is a high-priced person, is actually taking in the bottles and redeeming them. In major chains, you may have a different situation where they're hiring four or five part-time workers to be on.

The CHAIRMAN. I understand that there's a difference of opinion, but the question I asked, was this particular fund designed to take care of people who were dislocated because of the deposit legislation?

Ms. NOME. That's right. And we had places close down, Cott Beverages.

The CHAIRMAN. I have heard no one who has said that there was no dislocation. The argument is about net jobs—are they high-paying jobs? Are they low-paying jobs?

Ms. NOME. Well, there were jobs lost.

The CHAIRMAN. But this fund is more like at the Federal level, like our trade adjustment assistance fund, where, in theory, we are paying people who lose jobs because of dislocation from imports. The argument can be made maybe in the net, we're producing more jobs than we're losing, but some people are losing jobs and we use that fund to cushion them. I sense that that's what the Connecticut fund was.

Ms. NOME. Yes; well, I'm going to cover some of this on jobs in my testimony. The second point that I do want to bring out to you is Connecticut did have a litter tax. The litter tax was not effective until the following year. However, what really happened in Connecticut was that we had the bottle bill and everyone knew that that particular session, the bottle bill was not going to come up for an issue. And all of a sudden, we also had the litter tax. Unfortunately, grocery stores were taxed on volume. They had different charts for different things and it went on a little scale. We would have been hit all over again.

When you hear my testimony, you'll see how much money it's costing the retailer, and therefore, we even oppose the litter tax, but not for the reasons that I think were brought forth to this committee. I just wanted to clarify that.

The other point I wanted to clarify is the same situation holds for the repeal of the bottle bill. One representative came in and put in an amendment to repeal the bottle bill. Not one person in the

State of Connecticut even went. I mean, we just realized it wasn't the session, we weren't going to do it. But this representative felt so strongly about it, he put the bill in.

So the bill naturally was defeated. Nobody went out to do anything about it. I think just to clarify those points, I really do believe they are important.

But we've been living with the mandatory deposit law since January 1980. In 23 months that this law has been in effect, it has placed an unnecessary and costly burden on the Connecticut grocery industry in Connecticut and customers.

Specifically, grocers in Connecticut and their customers have experienced increased costs due to an increase in the number of employees required to handle the returned beverage container, increased storage space requirements for temporary storage of returned beverage containers, increase in the amount of required cash on hand to return the beverage container deposits contributing to an extremely high negative cash flow, an increase in the cost of sanitation and pest control services to comply with the health standards commonly associated with food handling establishments.

I would like to expand on each of these points.

The CHAIRMAN. Let me say this. You may expand, and I took a bit of your time with questions, but do not just read your testimony because it will all be in the record. I had a chance to read it this morning.

Ms. NOME. Fine. OK. I'm very pleased. I won't go into what it costs, then, because you have the cost figures here. But I would like to mention to this group that the cash-flow problems are very severe. Many people do not understand, completely understand the deposit site and what is actually being laid out. Not only does the retailer lay out the deposit and have to give the deposit when he gets the money. But he also has to pay for the mother carton. He has a lot of added expenses that he must or she must pay the distributor.

That cash flow problem amounts, in one of our chains, Stop & Shop, in Connecticut, to $450,000.

Another major problem is that we're redeeming—we're not talking about 5 bottles, 10 bottles, 50 bottles. Stop & Shop a major Northeastern chain, for instance, is redeeming 1 million bottles a week. Our storage problems are just something that you just absolutely couldn't imagine. We have had small stores, big stores, add-on additions and those additions are totally—Tri-Towne Foods is an example. It added on an addition that I would say is almost the size of this room right here, half the size, and brought me over there to show me that the room was absolutely filled to the bitter end.

Well, consequently, what happens is we have to bring in and use insecticides to handle the bugs. There is no legislation in the world that can help us with that and the reason for it is that the legislation now says that if there is foreign matter in the bottle, the retailer does not have to accept the bottle. All right?

The CHAIRMAN. Yes.

Ms. NOME. However, there's beer in the bottle, there's soda in the bottle. Now even if you put into this law that the bottle had to be washed, if I'm a customer and you're the retailer and I'm spending $150 a week on groceries in your store and I come in with a dirty bottle, you're really not going to turn me down, or you'd probably lose all your customers.

So that, in reality, and we're looking at realities, this is really a severe problem. I would love to see a person who has worked in a grocery store for just 2 weeks that understands the fiscal implications. I would love to hear the person say that they're still for the bottle law.

The question is not the intent of the bill. It really isn't.

I come from an environmental family. I sit on a conservation committee. My husband sits on the wetlands committee. We fully support the intent of the law. Not only that. We recognize that solid waste management problems are probably one of the most severe problems that we're facing in the United States. We simply do not believe that this particular law will be solving the problem.

In Connecticut, I don't believe that it's fair to say that the consumers are unhappy or happy with the law because we've heard many, many complaints and it's never been brought to a test. So that anyone who could really testify, it wouldn't be——

The CHAIRMAN. I can't recall. Do you have initiative and referendum in Connecticut?

Ms. NOME. Well, no, it's not in our constitution.

The CHAIRMAN. That's what I mean. So you can't put this on at all.

Ms. NOME. They have to have a constitutional amendment in order to have the referendum.

The CHAIRMAN. OK.

Ms. NOME. So therefore, this has never been tested. But I am here to answer any questions one might have because I've been very, very close to the bill and very close to the retailer. But at the same time, really, truly in Connecticut, and I'm sure the grocers throughout the United States want to participate in solving the problem because we, too, recognize it.

The CHAIRMAN. Let me ask you this question. I've got to stop you in just a little bit and take Mr. Shank. But I used to as a kid work at a grocery store during the summers. How did we ever survive those days when there were deposits on all bottles?

Ms. NOME. I can answer that.

The CHAIRMAN. I mean, we did survive.

Ms. NOME. I can answer it——

The CHAIRMAN. All right.

Ms. NOME [continuing]. If you'd let me.

The CHAIRMAN. Go ahead.

Ms. NOME. All right.

Years ago, you didn't have as many bottles. You didn't have as many brands. If you remember correctly——

The CHAIRMAN. As many what?

Ms. NOME. Brands, brands of soda. We have so many different brands of soda today and the retailer has to sort those bottles by size, shape, and color before a distributor will even touch them or pick them up. This is where your manpower and your hours go in.

When I was a little girl, we went to the candy store and we got out soda at a soda fountain and most families didn't have sodas in their home unless it was a special occasion, a birthday party, or something else.

Today, if you look at the statistics, milk used to be the leading beverage. If you look at the statistics today, you will see that milk is now No. 3 and soda is up at No. 1.

So you're dealing in hundreds and hundreds and hundreds of more bottles today than we did years ago, and that's really honest.

[The statement follows:]

Statement of Grace Nome, Executive Director, Connecticut Food States Association, Representing the Food Marketing Institute

Senator Packwood, members of the Committee, I am Grace Nome, Executive Director of the Connecticut Food Stores Association. I am here representing the Food Marketing Institute. FMI is a non-profit association that conducts programs in research, education, and public affairs on behalf of its 1100 members—food wholesalers and retailers and their customers in the United States and overseas. FMI's domestic member conpanies operate over 17,000 retail food stores with a combined annual sales volume of $100 billion—half of all grocery sales in the United States. More than three-fourths of FMI's membership is comprised of independent supermarket operators or small regional firms.

We are opposed to the Beverage Container Reuse and Recycling Act of 1981. In my state, legislation was passed in 1978 and we have lived with a mandatory deposit law similar to the measure before you since January of 1980. In the twenty-three months that this law has been in effect it has placed unnecessary and costly burdens on Connecticut's grocery industry and our customers. Specifically, grocers in Connecticut and their customers have experienced increased costs due to:

An increase in the number of employees required to handle returned beverage containers.

Increased storage space requirements for temporary storage of returned beverage containers.

Increase in the amount of required cash on hand to refund returned beverage container deposits—contributing to a negative cash flow.

An increase in the cost of sanitation and pest control services to comply with the health standards commonly associated with food handling establishments.

I would like to expand on each of these points.

One of the largest costs to the grocery retailer is labor. It should be noted that the minimum wage has increased from $2.66 to $3.37 since 1978 when the bill was written. Larger supermarkets have added an additional 100 man-hours per week for the handling, storing, and sorting of beverage containers. Sunday is typically the biggest day for redemption. Since much of our industry is unionized and union personnel receive double time on Sunday, payroll costs rise accordingly. Manpower needed to handle returned beverage containers in Connecticut costs $26,000 per store annually for one large chain. Typically, two to five part-time employees are added per store to handle bottle and can returns at the expense of those skilled workers in the beverage container industry who have lost their jobs since the implementation of the bottle bill in Connecticut which is placing further economic stress on an overly labor-intensive industry.

In addition to the labor element and attendant payroll increases, our customers also pay for increased storage facilities. Stores have had to invest in: additions to their buildings; storage bins; leased trailers; compactors and outbuildings to store returned containers. Stop and Shop, a major Northeastern chain, has spent an estimated $200,000 on equipment and between $50,000 and $70,000 in annual costs for storage. Shop-Rite spends an additional $1,400 every month to rent storage trailers.

Supermarkets with limited storage space are experiencing cash flow problems as well. The retailer is required to redeem the containers of any product he carries. In many cases this has resulted in retailers stocking fewer brands, because they may sell two cases of a particular brand but then be required to redeem 40 cases. Retailers are becoming selective about what they carry since containers must be separated by size, shape, and color to ensure that bottles are returned to the same distributor. Some supermarkets are redeeming 200 to 300 percent of what they sell. One supermarket reports a $450,000 negative cash flow. Some markets have stopped selling bottled beverages altogether because of the increased storage requirements with bottles, thus limiting our customers' selection. Our industry handles over 18.8 billion dollars worth of canned and bottled beverages nationally each year. If a national deposit law goes into effect with a five-cent deposit, we're talking about an additional $45.6 million in deposit costs alone.

Sanitation is a major concern for Connecticut's grocers. Food retailers are redeeming millions of dollars in containers each week. One grocery chain is presently redeeming as many as one million cans each week in its stores. The storage of these cans and bottles in food handling establishments has created increased pest and sanitation problems. An increased use of pesticides and rodenticides is necessary to eliminate the vermin that are attracted to syrupy, dirty, bottles and cans. Beverage containers come back to our stores filthy, disorganized, unsorted by size, material, or brand. This is garbage and does not belong in food stores. Food safety and preservation are elements of our business we take very seriously, gentlemen, and bringing garbage from the streets into our back rooms is not the solution to America's litter problem.

An October, 1980, study on the "Cost of Handling Returned Beverage Containers" conducted by Case & Co. identified the average cost of handling beverage containers in grocery stores, not including the actual deposits, at 2.373 cents per container in the six states with bottle bills. In Connecticut that cost is just under three cents per container. That means that our customers are paying about 56 cents per case for handling costs alone when they buy soft drinks or malt beverages. In Connecticut we estimate that our customers are paying $45 million per year in increased beverage costs. That's a lot of money to pay for a partial solution to the solid waste problem in our state.

The bill before this Committee addresses only part of the solid waste problem and creates too many costly interruptions in the food distribution system. Reliable studies have concluded that bottles and cans comprise only 17 to 25 percent of the litter stream, with paper products making up the bulk of the solid waste.

Clearly, the "bottle bill" solution addresses only a small portion of the total litter problem. A more comprehensive, systematic approach aimed at eliminating all forms of solid waste is needed. Several states, including California, Nebraska, New Jersey, Ohio, Tennessee, Virginia, and Washington have adopted more comprehensive alternatives to bottle bills. Basically, their laws work by assessing the manufacturers, wholesalers, and retailers of products that contribute to the litter stream, then taking those funds and using then for clean-up, education programs, and to establish recycling centers. This type of approach has been so successful that the National Conference of State Legislators adopted the Ohio Litter Control Law as model legislation at their annual meeting in Atlanta this year. The N.C.S.L. has chosen this legislation as a superior alternative to bottle bills, which speaks highly of its success.

Another fact, well worth consideration by this Committee, is that since 1970 the mandatory deposit issue has been considered in over 1,000 state legislative sessions and resoundingly rejected in all but seven states. Seven laws out of 1,000 attempts does not speak well of the states' support for the issue.

In fact during 1981, 35 states have taken up the issue of mandatory deposits and it has passed in only one state—Delaware—by one vote in the Senate.

Frankly, our industry questions the need for federal legislation at all. Our understanding of the goals of this Congress and Administration is that the federal government intends to provide more autonomy to the states and more regulatory relief to our nation's private sector.

Certainly, the creation of a national mandatory deposit law and the necessary regulatory enforcement staff at the Environmental Protection Agency contradicts my understanding of the Congress and Administration goals.

The Food Marketing Institute believes in sound environmental management through efforts at the state level. A forced deposit law at the national level would raise food prices for our customers without accurately addressing the total litter problem.

The solution is not to bring bottle and can litter into our nation's grocery stores, but to seek comprehensive alternatives which address the total litter problem.

Again, thank you for the opportunity to express our views.

The CHAIRMAN. Mr. Shank?

Mr. SHANK. Yes, thank you, Mr. Chairman. I will endeavor to be quite brief. To identify myself, I am J. Franklin Shank and I do own a supermarket in Hagerstown, Md., by the identity of Towne and Country Foodland. I am here expressly representing my position as a director on the National Board of the National Association of Retail Grocers of the United States.

Again, in very capsule form, I believe you are aware that we, as a national trade association, have opposed mandatory deposit for the last decade. We do believe that there really are better ways of achieving the desired goal. We believe that the free enterprise system, given the opportunity to operate either permanent or mobile reclamation centers, is really the solution to the problem.

In fact, in the State of Maryland, we, plus the beverage industry, have put our dollars into this effort. We have some five in being and are considering a statewide network of reclamation centers that would be properly manned at proper hours to really recycle not only the bottle and the glass, but all the other commodities—the paper, the plastic, that have been referred to at this hearing today.

We, too, think that there should be attention given to the other 80 percent of litter, not just to the cans and to the bottles.

Being a supermarket operator, the sanitation risk, the other liabilities of space, time, cost, all involved into the process of mandatory deposit, really scares us in an industry where we only make 7/10ths of 1 percent net profit to start with. We have been building our stores with small warehouses because of the cost of money and these facilities have been adequate. Most merchandise is on the sales floor. The warehouse space is limited. The cost of adding warehouse space, sanitation problems, and extra dollars to be expended for labor, would scare us to death.

We do believe that solid waste recycling through the free enterprise system can be done effectively and I hope that you'll give us the opportunity to do the job this way.

The CHAIRMAN. Thank you very much. I have no questions of either of you. I appreciate you waiting this long to testify. Thank you for coming down here.

Ms. NOME. Thank you.

Mr. SHANK. Thank you.

[The statement follows:]

STATEMENT OF J. FRANKLIN SHANK, NATIONAL ASSOCIATION OF RETAIL GROCERS OF THE UNITED STATES

Mr. Chairman and members of the Committee, I am J. Franklin Shank, President of Towne and Country Foodland in Hagerstown, Maryland. I also serve as a member of the board of directors of the National Association of Retail Grocers of the United States on whose behalf I appear here today.

The National Association of Retail Grocers of the United States (NARGUS) is a national nonprofit trade association representing approximately 40,000 owners and operators of retail grocery stores. NARGUS members own and operate supermarkets, small and medium size grocery stores, box stores, warehouse stores, and convenience stores. All types of communities, rural, suburban, urban, and inner-city, are served by NARGUS retail grocers.

SUMMARY OF INTEREST

NARGUS and retail grocer members have consistently opposed legislation requiring refunds or deposits on beverage containers during the last decade. NARGUS remains opposed to S. 709 and similar measures establishing mandatory deposits on beverage containers.

NARGUS recognizes the need to preserve rural and urban environmental quality by better methods of handling and disposing of solid waste. Improved environmental quality requires active participation of all citizens, not just a limited sector of commerce.

Requiring refunds on beverage containers concentrates on a limited segment of the total solid waste problem, beverage containers. The remaining 80 percent of litter items is disregarded. Mandatory deposits place substantial burden on retailers' cost of operation. Retailers incur greater costs for labor, equipment, and storage. Sanitation risks for food retailers and consumers are increased. Ultimately, the consumer pays for the higher cost of operation from mandatory deposits through higher prices.

Retail grocers and NARGUS oppose mandatory deposits for 5 major reasons: (1) Extra labor costs for handling and sorting beverage containers; (2) Increased sanitation hazards; (3) Safety risks caused by clutter in stores; (4) Insufficient storage space; and (5) Decreased beverage business. Most important, consumers are injured by higher prices, and the availability of less competitive brands to choose from.

NARGUS supports recycling and resource recovery plans as a more comprehensive approach than mandatory deposits. As an example, in Maryland, retailers, beer wholesalers, and soft drink distributors have supported Beverage Industry Recycling Program (BIRP/MD). Five recycling centers are expected to recycle more than 5 million pounds in 1981.

In conclusion, NARGUS opposes S. 709 because it will increase consumer prices and contribute to inflation, not solve the litter problem, create more unnecessary government controls, and cause health and safety risks in retail food stores.

STATEMENT OF INTEREST

S. 709 would require retailers to refund at least five cents to consumers for beverage containers tendered for refund. Retailers in turn would receive refunds from distributors selling the beverage brand which was in the container. In addition, an amount, subject to adjustment, equal to two cents would be paid for retailer handling costs.

NARGUS is opposed to S. 709 and other mandatory deposit legislative measures. NARGUS supports freedom of consumer choice in the marketplace. Since 1976 seven states (Alaska, Colorado, Massachusetts, Montana, Nebraska, Ohio, and Washington) have rejected mandatory deposits on beverage containers by a vote of the people. In those states consumers exercised their choice at the ballot box.

NARGUS has supported and continues to support recycling and resource recovery as a viable alternative to mandatory beverage containers. Efforts to conserve resources and recycle a comprehensive spectrum of solid waste are being initiated.

Mandatory refunds or deposits on beverage containers attack only the portion of the litter and solid waste problems which is attributable to one way beverage containers. Beverage containers compose only about 5 percent of urban street litter and 16 percent rural highway litter.

Mandatory deposit legislation will increase retail prices. Labor costs in operating a retail food store generally exceed 50 percent of operating costs. The 1980 General Accounting Office report on beverage container deposit laws reflects significant underestimating of the impact on retail grocers. GAO estimates are that national deposit legislation would require almost $1 billion more in labor cost for retailers. Retail grocers' operating margins are not able to absorb the labor cost increases. The additional costs will be passed along to consumers in the form of price increases.

Adjusting the 1974 Applied Decision Systems Oregon report for federal minimum wage increases, convenience and grocery stores would have to pay additional monthly labor costs of $10 to $130 to handle, sort, and store beverage containers. The additional labor cost for supermarkets would range from $300 to over $400 per month. Another survey by Progressive Grocer magazine in 1977 estimates higher annual labor costs at over $13,000 for supermarkets and about $9,000 for small stores.

Retail space is a cost factor given little attention. Space devoted to handle returned beverage containers required by mandatory deposit laws frequently replaces valuable inventory or sales space. Average front store space devoted to returned beverage containers is 32 square feet. Backroom space average is 250 square feet. Retailers lose product sales by being unable to use sales area and retain adequate inventory supplies.

Retailers frequently have to make costly investments in outside storage areas and other equipment to adjust to the effects of mandatory deposits. Investments in equipment include wheeled bins, extra shopping carts, storage racks, and refund pads. Costs range from hundreds of dollars to thousands.

Providing wholesome and uncontaminated food to consumers is of foremost priority to food retailers. Modernization of packaging has been a significant factor in assuring wholesome food. Returnable containers are returned in unsanitary condition. Sticky and half-filled containers often attract insects, if they are not already returned infested and contaminated with insects. The nonreturnable container has improved sanitary management for retail food stores. Food stores are subject to local, state, and federal inspection. Even to hold food in a place where it could become adulterated is a violation of the Food, Drug, and Cosmetic Act. Failure to meet the requirements of the Act can subject food retailers to absolute criminal liability. Surely, a return to a completely returnable container system would enhance the risk of being found in violation. The reputation of locally owned and operated retail food stores thrives on being able to supply their community wholesome food.

Sanitation problems to contend with include: (1) Pest and rodent attraction in backroom storage areas; (2) Spillage in grocery display areas due to sorting, transportation, and storage; and (3) Cross contamination of food products. Retail grocers have to exercise extreme caution to segregate storage of returned beverage containers from food products. Employees handling returned beverage containers are usually directed to have limited contact with food products. Spillage in food product display areas creates for consumers and employees dangerous conditions for potential injury. Spills require more frequent cleaning of otherwise neat and clean floor surfaces. These sanitation conditions accentuate the problems with space, allocation, labor costs, and efficient operation.

The CHAIRMAN. Did Mr. McBride arrive?

[No response.]

The CHAIRMAN. If not, we'll move onto a panel of Mr. Bill Henderson and Mr. Bill Scheffer. Mr. Henderson is the president of the United Food & Commercial Workers, Local No. 1179 in San Francisco, and Mr. Scheffer representing the Independent Truckers Association. Are they here?

Mr. HENDERSON. Yes.

The CHAIRMAN. Good. Good morning.

STATEMENT OF BILL HENDERSON, SOUTHWEST RETAIL CLERKS UNION, MARTINEZ, CALIF.

Mr. HENDERSON. Good morning.

The CHAIRMAN. Why don't you go right ahead.

Mr. HENDERSON. Mr. Chairman, I'm Bill Henderson. I'm president of a UFCW local in the State of California, in the San Francisco Bay area. I'm also president of the Bay Area Council of Retail Clerks and a larger organization known as the Southwestern States Council of Retail Clerks, or the UFCW now, which is primarily made up of the retail clerks division of what is now UFCW, and represents approximately 150,000 members of the Retail Clerks Union in the State of California.

We have had a position of supporting beverage container deposit legislation over a number of years, as it has been before our legislature for some time in the State of California.

There are many, many reasons for supporting this legislation that are not directly related to labor, but I would like to confine my remarks primarily to the labor impact.

I realize that many labor organizations have taken positions in opposition to this kind of legislation. I personally feel that it has been shortsighted, that oftentimes they have approached the whole subject with a closed mind, having formed early opinions and never having reviewed the new data and statistics that have been made available over the years.

Practically all the studies show a net increase in jobs as a result of the deposit legislation. Contrary to what those who oppose the legislation say, there are a lot of very high paid jobs that will be on the increase side.

In the State of California, our retail clerks would probably be the group that would gain the most by this increase. A retail clerk in a food store now makes $10.84 an hour. In January, it will go to $11.97 an hour. That's the checkers. The people at the lowest level, the courtesy clerks, who are only allowed to handle the containers after they have been purchased from the consumer and then take them back, separate them and so on, is paid now at about $5.40 an hour and that goes to about $6 an hour in January.

That is not a menial wage when you consider that that's only part of the cost because they have health plan benefits and pension plans that add a great deal to that cost.

There has been a great deal of exaggeration about the effects of this kind of legislation and how it is geared to do away with the nonreturnables. That is simply not so. If you look at S. 709, it doesn't require a shift to refillable containers. Certainly, that's something that's going to be determined by the industry, by market forces, and by public demand. So this law is not going to influence that in any way.

I think the most damaging thing to our economy and the job market over the years has been the centralization of the beverage industry when the one-way container was introduced. They were able to centralize, send them long distances and not have to be concerned about bringing them back and reusing them. As a result, thousands of jobs have been lost over the years.

The result of this kind of legislation, and experience shows it, would be to encourage the use of the refillables again, which is, of course, more labor intensive and would help the retail clerks, the employees of bottlers, and those in the trucking industry, to recapture the jobs and the potential jobs that were lost by this decentralization and automation of the beverage industry over the years since the repeal of prohibition.

I think one important thing came out in California in a survey by the State department of consumer affairs. That was that in California, 84 percent of all Californians support beverage container deposit legislation. Surprisingly an even higher percentage, 86 percent of all union households favor this legislation.

Therefore, I feel that labor is really not awake to the issue and that any labor leader who does not support this legislation is out of step with their rank and file.

The CHAIRMAN. You know, I think I know what happens. You've been in this business for a longer time than I have. It's the bird in the hand. It is easier to see the job that exists that's going to be lost than the two that are not in existence at the moment that will be created.

And so the passion comes down on the side of what you can see. I guess that that's an understandable human emotion. Most of the evidence we seem to have indicates that, indeed, jobs are created. You get into an argument about are they skilled jobs or unskilled jobs and are you losing very, very high paid craftsmen in certain areas to what you call the courtesy clerks. I assume that's what would have been bag boys or something 20 years ago.

Mr. HENDERSON. That's correct.

The **Chairman**. Well, that's what I was when I worked in a grocery store. But again, I can understand the opposition because it's a visible job that you can see.

Mr. Henderson, I have no questions. I appreciate it.

Mr. **Henderson**. I would like to say one thing in rebuttal to the sanitation issue.

The **Chairman**. Go ahead.

Mr. **Henderson**. I, like you, worked in the retail food industry and I've been associated with it and worked in it since about 1939. I worked in that industry when all the containers were returnables. I was engaged in that process—it was no different then than it is now—of separating the containers by size and by brand and so on. It was never any overriding concern of the grocery industry then and until the deposit legislation was introduced, they were still handling these returnables, although in a smaller percentage to the total volume.

The hue and cry about sanitation problems only arose when this legislation was proposed. It seems strange that there wasn't something that the industry wanted to do about that alleged problem before the legislation in some cases was proposed or later enacted.

The **Chairman**. You know, that same thought strikes me. When I worked for a grocery store, I had occasion to work for both a large store chain one summer and then I worked for another one that would be the equivalent of a mom and pop store run by a fellow and his daughter who had a butcher shop with one butcher. I would work in the summers and that was the extent.

I recall the cartons of bottles coming in. I sorted them out and put them out in back. I did not recall sanitation as a problem. I understand that you had to sort them out by shapes and sizes and different brands, but for the life of me, even at the large store, which I suppose had 40 or 50 employees if you counted both shifts, or the small mom and pop store, I do not recall sanitation as a particular problem.

I understand the objection, and the mom-and-pop store thought the bottles were an aggravation. I do recall that. But not from a sanitation standpoint.

Mr. **Henderson**. That's true. I think that it will just require more pickup services than we probably had before.

The **Chairman**. Even though this was a small store, we had set aside in the back a fair amount of cubic footage to store the bottles for 2 or 3 days or 3 or 4 days until they were picked up. As I recall, unless I'm mistaken, they were picked up by the same company that delivered the same brand. We had it arranged in cases for them and they'd put them on the truck as they left the full bottles for us.

Mr. **Henderson**. That was my experience also.

The **Chairman**. Thank you very much, Mr. Henderson, for taking the time.

Mr. **Henderson**. Thank you.

[The statement follows:]

STATEMENT OF BILL HENDERSON, PRESIDENT, UNITED FOOD & COMMERCIAL WORKERS UNION LOCAL 1179, PRESIDENT, SAN FRANCISCO BAY AREA COUNCIL OF RETAIL CLERKS, SECRETARY-TREASURER, SOUTHWESTERN COUNCIL OF THE UFCW

Mr. Chairman and members of the committee, I am Bill Henderson, president of the United Food and Commercial Workers Union, Local 1179, president of the San Francisco Bay Area Council of Retail Clerks, and secretary-treasurer of the Southwestern Council of the U.F.C.W, the membership of which consists primarily of the Retail Clerk Division of the U.F.C.W. local unions in California. I am here to express the emphatic support of these retail clerks organizations for a beverage container deposit law.

All studies which I have seen indicate that thousands of new jobs will be created by such legislation. Truckers, bottling company employees and retail clerks will all benefit. Many of these jobs are high-paying. There will also be a positive effect on jobs in the core city among those often called "unemployable."

There has been a great deal of exaggeration circulated regarding the potential impact of this bill on workers who manufacture bottles and cans, and I believe that as a result many people are misinformed about the true labor impact which would result from deposits on all beverage containers.

S. 709 does not require a shift to refillable containers. It merely calls for deposits to be placed on refillable and nonrefillable containers. No one is banning cans or nonrefillable bottles. The common underlying assumption of most arguments against this bill is that plants will immediately manufacture fewer bottles and cans, when in fact under such legislation fewer bottles is a long-term possibility, and fewer cans not even necessary. Any shift to refillables among bottlemakers will be determined by industry, not S. 709. Beverage companies can continue to sell nonrefillable bottles, especially to longer distance markets, and S. 709 at least assures that the glass is recovered. There should be no drastic economic dislocation as a result of a container deposit law as detractors claim.

It is time for the labor movement to take a hard look at the overall job impact of these no-deposit no-return containers. Thousands of clerks, truckers, and bottling company workers have been displaced by this throw-away ethic over the years and thousands more will not find work if industry phases out all returnables in the near future.

An example of future job losses from the disposable containers is the newest marketed item, the plastic bottle.

It was estimated that the plastic bottle would capture 10 percent of the beverage container market by 1980, and it appears from the information supplied by the 1980 report of the Comptroller General to now be a fact. Some estimates indicate that 70 percent or more of the market will be taken over by plastic bottles by the mid-1980's. These containers can not be refilled and are also bad for labor because they require fewer workers to manufacture.

Since S. 709 encourages less costly refillable containers, the plastic bottle may become a less attractive option. This may save more jobs than opponents say will be lost. What I'm saying is that there is a chance that S. 709 could save jobs in the glass and metal trades rather than risking them.

A can plant closed in Oregon because of industry decisions and because the Oregon bill specifically encouraged bottles.

S. 709 has been carefully written to avoid discriminating against cans as the Oregon law did. It is my prediction that S. 709 will not create important problems for labor in any field.

I worked for years in a grocery store. I do not believe that the law will create sanitation problems. It has not put a single grocer out of business in any state.

When you vote, please reflect upon the absurdity of catering to "convenience" over more important economic and environmental values. It is clear that S. 709 will begin to repay to society the terrible loss and waste created by the throwaway industries.

According to the department of consumer affairs of the State of California, deposit legislation is favored by 84 percent of all Californians. The same poll shows that 86 percent of all labor union households favor the legislation. Labor leaders who oppose beverage container deposit legislation are clearly out of step with the rank and file.

On behalf of myself and thousands of other concerned labor union members, I urge you to support this common-sense bill. Thank you.

A LABOR VIEWPOINT ON THE EFFECT ON JOBS

1. Every study, both in individual States and on a national basis, has indicated there will be a net increase in jobs as a result of deposit legislation.

2. The loss would be in the container industry.

3. The gain would be in beverage production, distribution, and retailing.

4. In addition, federal studies indicate there will be a substantial increase in the overall payroll due to the increase in the number of new jobs, which for the most part would be union and wage rates and fringe packages woud be comparable to those of jobs lost in the container manufacturing industries.

5. The number of jobs that would be lost in the container industry may not be as great as some early studies indicate; for instance:

6. The Continental group (which includes Continental Can Co.) stated in a memorandum dated August 29, 1977 "We see a potential for cans becoming the preferred container under a deposit system. A deposit system would not adversely affect the cans convenience and could well enhance it."

7. According to a Department of Commerce census, concentration and consolidation in the brewing industry along with increasing automation which has occurred in the shift to throwaway containers, has resulted in the loss of 26,000 jobs in the brewing industry between 1958 and 1974.

8. This trend is being followed in the soft drink industry. Over 90 percent of all soft drinks sold in 1958 were in returnable bottles. About 40 percent are in returnable bottles today. 7,900 workers lost their jobs in the soft drink industry between 1970–1974.

9. A recent development could mean even greater losses in the future. The plastic bottle is already being used by soft drink manufacturers and captured about 10 percent of the throwaway container market by 1980. The introduction of this container will mean job losses for workers in the glass and can industries as manufacturers switch to plastics.

10. The 1980 report by the Comptroller General of the United States cites "employment gains at the retail level in Michigan were more than twice as high as we would have projected using our 1977 national model. For example, we estimated that retail employment would rise about 30,000 nationwide. The addition of the equivalent of 35,000 full-time retail employees in Michigan, however, indicates more than 80,000 new employees nationwide. . . ."

11. There will be some job dislocations with the passage of deposit legislation, as there were in the past with a shift to throwaways, and could be in the future as a result of the plastic bottle. But by returning to returnable bottles, many more jobs will be created than lost.

The **CHAIRMAN**. I will insert in the record the statement from the Independent Truckers Association of Mike Parkhurst and Mr. Scheffer, who could not be here this morning.

Now can we take Mr. Kenneth Peterson, representing the AFL–CIO?

Let me tell you, for the rest of you in the audience, what I'm planning because we're clearly not going to finish right at 12 and there is a vote at 12. I think there is only one vote, so when the vote comes, I will go over and vote and come back here about 12:15 and we'll just continue on until we finish. I would hope that we could be done before 1.

Go right ahead.

STATEMENT OF KENNETH T. PETERSON, LEGISLATIVE REPRESENTATIVE, AFL–CIO, WASHINGTON, D.C., ACCOMPANIED BY HOWARD CHESTER

Mr. **PETERSON**. My name is Kenneth Peterson and I am a legislative representative of the American Federation of Labor and Congress of Industrial Organizations. I am accompanied by Howard Chester of the Stone, Glass & Clay Coordinating Committee, which is a committee composed of unions which will be affected by this bill.

I am a little surprised by the previous testimony. The gentleman has the right, of course, to express his opinion. But as far as my knowledge is concerned, he is in the decided minority. My understanding is that his union is opposed to his position. There is a union representative from his union in the room if you wanted to call on him.

As to your remarks, sir, that we are shortsighted, I don't think so. We're talking about the jobs that the fathers have now.

The **Chairman**. That the who have?

Mr. **Peterson**. The fathers, the family breadearner. And you're talking about jobs that will be given to students and the like part-time. Are they skilled or unskilled? You say this is a variable question and there are disputes about it.

In his union, they recognize a distinct difference and there's a lower wage scale. Therefore, the distinction is clear: The higher skilled job will be lost and the lower paid, unskilled job—there may be even more of them. But no matter how you slice it, it's still baloney; right? We're talking about returnables. They've got to be carried and stacked and put in the truck and cleaned and this is the total end sum of it. And there's no future in this. There's no hope that they are going to rise, unless the entire economy rises. But in these jobs themselves, it's a dead end, and there they are.

The **Chairman**. Well, I suppose you can say that about most of the jobs in this country.

Mr. **Peterson**. Oh, hardly, sir, hardly. Go ahead, I'm sorry.

The **Chairman**. Do you think that when a person becomes what I call a bag boy and what is now a courtesy clerk, that you take that job and it's a dead end and you hold that for the rest of your life?

Mr. **Peterson**. No, look at you.

The **Chairman**. There are those who in politics would call it bag men rather than bag boys.

Mr. **Peterson**. This is a play on words. But you didn't want to stay a bag boy. You wanted to get out of it. And this is what they'll be trying to do, to get out of this. This is an unseemly, unlikely, dirty job. The lack of sanitation is there. The people bring it in. As you know, you have it there and they're wet. They don't drain them completely. Many of them don't wash them.

Apart from my testimony, which I haven't hit yet, as an individual, my kitchen must have been designed by Pullman. Where am I going to stack them? We have a football game. We watch the game with some beers. It's a nuisance. I don't want them in the house. I don't want to stack them anywhere. I don't want to pile them up. I don't want to make special trips to the store. That's my personal feeling.

The **Chairman**. You'll recall, I previously didn't say that you were shortsighted; I just said that you were passionate.

Mr. **Peterson**. It just disturbs me that when you say we're shortsighted, and I'm talking about the jobs that, first, we had to organize them and mostly we had to go on strike after we organized them. And then through the years, we had this horrible economic situation, where the only way that we could make advances is through cutting off our income.

So they had to go on strike to establish what was right. We had to go on strike to establish a pension contributed by the company, a continual struggle.

So here we get these jobs now up to a decent level and they're paying a decent income and you and the others appear willing to trade these for jobs that are going to pay considerably less. I can't see the justice in this. The things you're affecting is the workingman's drink, too, right? You know, it comes down to the poor guy in the end.

Senator Mitchell, whose father I worked with on the first civil rights bill passed since Reconstruction, came up and had an opposite opinion. But he made his plea for the poor. And here we are.

The CHAIRMAN. As a matter of fact, Senator Mitchell is on your side on this.

Mr. PETERSON. Yes. I understood that in the context.

The CHAIRMAN. He's opposed to the legislation.

Mr. PETERSON. I beg your pardon. I misunderstood. I'm delighted to have his companionship.

It's the first time that our families have been separated.

I was in the back and I do have a hearing impairment and I thought that he——

The CHAIRMAN. He happened to be on a panel with three others who supported it.

Mr. PETERSON. I see. Well, then, I misunderstood him when he was speaking.

So shall I go to the testimony, sir, or have you read it this morning? You've had a very busy morning.

The CHAIRMAN. No. What I had last night, I read last night. I find it more helpful for me to read it before we get here, so that I have more time for questions if I want to ask them.

Mr. PETERSON. Sure.

The CHAIRMAN. Again, your statement will be in the record.

Mr. PETERSON. All right, sir. But I want to make one point which you also spoke to that wasn't considered in this bill. We note that S. 709 is silent on dislocation assistance programs. If the kind of job loss of skilled, well-paying jobs in the can and bottle industry takes place, a comprehensive Federal compensation program for its victims is indispensable. One must warn, however, that when a program of assistance has established adjustment assistance to workers who lost their jobs due to increased imports caused by U.S. trade legislation, it was deliberately made nonoperative for 8 years. Then when it began to pay out billions of dollars due to heavy job losses in import-impacted industry, the program was almost totally dismantled.

As we said then, we don't want the dole; we want our jobs.

The CHAIRMAN. I'm very familiar with the Trade Adjustment Act also.

Mr. PETERSON. Yes, but you recognize the terrible cuts that have been made.

The CHAIRMAN. Well, you can argue it on your side and I can argue it on the other side as to why the cuts were made.

Mr. PETERSON. Well, I can argue. My son was put out of a job and he got trained as an assistant and then was cut out. But as far as organized labor is concerned, the question comes to this: Is the prevention of beverage container litter worth the loss of 42,000 jobs? Our figure is 60,000. The Department of Commerce's was 80,000 odd. This is the EPA figure.

So our answer is no, and we urge that you rethink S. 709. Howard Chester here, who I introduced earlier, would like to make a few remarks.

The CHAIRMAN. Mr. Chester?

Mr. CHESTER. I would only say, Mr. Chairman, that I think that Mr. Peterson did a tremendous job of presenting organized labor's position as a whole. I don't think that anyone can do it any better than he has done it. So I would just close up shop and say that I'm very happy to have accompanied him and to have heard his presentation, which I think was excellent.

The CHAIRMAN. And your closing remarks are, if worst comes to worst and we pass this, you would like the equivalent of trade adjustment assistance in it for the workers for dislocation.

Mr. PETERSON. Yes, we would, indeed. I'm delighted that you recognize the possibility that it will cost skilled jobs and that these are really more important than replacement jobs that will come along.

The CHAIRMAN. I have over the years read most of the reports on jobs. I am not totally convinced, that all of the jobs that are created are unskilled, and that all of the jobs that are lost are skilled.

But I'm not going to argue that. I'm convinced that there is not only an increase in the net number of jobs, but also in the total net wages. But I'll grant you that there may be a dislocation. I'm not going to try to argue against that.

Mr. PETERSON. I wanted to get this much in, too. The AFL-CIO recognizes the good intentions of the sponsors of S. 709 and also wishes relief from the plague of broken bottles and strewn about empty beer cans. However, we believe that the price of S. 709 is too high in the cost of jobs and only a partial attack on the entire problem.

The CHAIRMAN. What do you suggest for a full-fledged attack?

Mr. PETERSON. A total coordinated plan on all the litter, sir.

The CHAIRMAN. You mean a litter tax?

Mr. PETERSON. No, a litter attack. We have enough taxes.

The CHAIRMAN. Which would be levied only on nonunionized industries.

Mr. PETERSON. You know, we help everybody. Our brothers who are not organized are benefiting from their position in the economy through the strikes and the sufferings that we went through to organize the workers. There's no question that the organized free movement here in America has raised the standard of living for everybody. We find that in a strong democracy and a decent standard of living, you'll find a strong union working force.

The CHAIRMAN. You make a very eloquent statement. I appreciate it.

Mr. PETERSON. Well, I've heard many eloquent statements from you, including one of the finest I ever heard in the Senate on development and growth of English law.

The CHAIRMAN. Well, thank you.

Mr. PETERSON. I remember that startling night and applause even came from the floor.

The Chairman. As we enter some of the issues that we're apparently going to face again later this year, I may repeat that speech.

Mr. Peterson. I want you to know how it is when you find yourself, as we just found, in difference with our colleagues, I believe you experienced that recently.

We were in support of your position on that. I think you know that, too.

The Chairman. I talked with Mr. Kirkland yesterday about it and thank you for the support.

Mr. Peterson. On behalf of the contribution you made, we thank you; may it be that you'll reconsider this because a good man can make a mistake, right?

[The statement follows:]

Statement of Kenneth Peterson, Legislative Representative, American Federation of Labor and Congress of Industrial Organizations

Mr. Chairman, the American Federation of Labor and Congress of Industrial Organizations welcomes this opportunity to present our comments on S. 709. This legislation would establish a "uniform national system for requiring a refund value on sale of all beverage containers"—either in cans or in bottles containing a beverage under carbonation pressure. The refund is set at not less than 5 cents for each container, whether for sale or resale. The bill would be administratered by the Administrator of the Environmental Protection Agency. The AFL-CIO recognizes the good intentions of the sponsors of S. 709 and also wishes relief from the plague of broken bottles and strewn about empty beer cans. However, we believe that the price of S. 709 is too high in the cost of jobs and only a partial attack on the problem.

There is nothing substantially new in S. 709. Its predecessors have been introduced on numerous occasions over the past several years. It reached the hearing stage in January, 1978, before this subcommittee, but went on further. At that time the AFL-CIO testified in opposition to a fixed deposit law and we reiterate our opposition today.

First of all, Mr. Chairman, this bill flies against the orderly procedure set forth in Section 8002 (j) (l) of the Resource Conservation and Recovery Act, requiring the establishment of a Resource Conservation Committee to "conduct a full and complete investigation and study of all aspects of the economic, social and environmental consequences of resource conservation", and report them to the President and the Congress.

Since no such investigation and report has been received by the President and the Congress, we urge the committee to take no action on S. 709 until the provision of Section 8002 (j)(l) have been fully complied with and this Committee and the Congress can then react intelligently and comprehensively to its findings, conclusions and recommendations.

This legislation, like its predecessors, focuses on only one source of solid waste and litter. Rather than such a piecemeal approach, it is the wiser course to develop a comprehensive plan and program against which individual strategies could be evaluated. This would result in broad controls, where desirable, rather then being leveled upon one sector, such as containers.

Such a comprehensive approach is needed in view of the fact that deposit legislation will affect only 51.3 percent of the metal containers produced annually in the United States. Not covered are billions of food containers, general packaging, pet foods, and non-beverage cans.

Only one-half of all glass containers are for beverages, and only 25 percent of the more than 10 billion tons of newsprint are recycled into new products for reuse on the presses.

The major concern of the AFL-CIO is the impact of this legislation on jobs. To that end I should like to make two points:

1. In 1978, the Interagency Resource Conservation Committee, in order to carry out the mandate of Congress under the 1976 Resource Conservation and Recovery Act, reviewed these issues: (a) mandatory beverage container deposits; (b) solid waste product changes; (c) federal subsidies for resource recovery; (d) federal litter tax; and (e) national deposit or bounty programs for products other than beverage containers.

Although the committee did not recommend mandatory federal deposit legislation in its initial report, it did agree on certain aspects of such a program if ultimately recommended by the committee.

What the RCC failed to do, however, was to make findings on the economic consequences of such a system, such as job losses, other than to indicate their intent. It likewise delayed making a finding as to whether dislocation assistance programs should be provided for workers who might lose their jobs from a national mandatory deposit program.

We also note that S. 709 is silent on this subject. If the kind of job loss of skilled, well-paying jobs in the can and bottle industry takes place, a comprehensive federal compensation program for its victims is indispensible. One must warn, however, that when a program of assistance has established to provide "adjustment assistance" to workers who lost their jobs due to increased imports caused by U.S. trade legislation, it was deliberately made non-operative for 8 years. Then, when it began to pay out billions of dollars due to heavy job losses in import-impacted industries, the program was almost totally dismantled. As we said then, we don't want the dole we want our jobs.

The position taken by the AFL-CIO in convention in December of 1977 remains unchanged. We said then: "We continue to oppose legislation on any government level designed to prevent or restrict the use of non-returnable beverage containers. This approach ignores the major litter problems of America, diverts resources from workable recycling strategies and would result in the loss of 60,000 permanent well-paid jobs in the bottle and can industries."

In addition to these job losses proponents of the bill appear to accept the proposition of trading jobs of skilled workers who are earning a living for low pay unskilled jobs. We believe it is a bad trade when the end product is a job sorting and stacking returnables.

Estimates of the employment effect of mandatory deposit beverage container legislation vary. Our own estimate in the AFL-CIO policy resolution on solid wastes was 60,000. A more recent estimate by RCC concludes that by 1985 such legislation would reduce the workforce size in the bottle and metal can sector by some 42,000.

2. Several states have enacted and have some experience with the administration of mandatory beverage container deposit laws. These include Oregon, Vermont, Maine, Michigan, Iowa and Connecticut. Most of these programs have been in operation (except for Oregon and Vermont) for three years or less. However, results of their experience show that part-time or low-wage jobs are created at the expense of skilled jobs in the glass and can industries.

In addition, forced deposits laws in states with mandatory deposit laws have either reduced sales of beer and soft drinks or flattened out their annual rates of growth. Some studies have found that the operation of such laws would increase rather than decrease the consumption of energy. Other studies have shown that the business costs of sellers of beverages in cans and bottles have increased, which, of course, means that these would be passed on to the consumer and thus tax revenues to the states have dropped.

As far as organized labor is concerned, however, the question comes to this. Is the prevention of beverage container litter worth the loss of 42,000 jobs? Our answer is "no", and we urge that S. 709 be rejected.

The **Chairman**. Let's take the panel of recyclers, Mr. Edmond Carreras and Mr. Jerry Petrie.

STATEMENT OF JERRY PETRIE, GENERAL MANAGER, ARIZONA BEVERAGE INDUSTRY RECYCLING PROGRAM [BIRP]; EDMOND CARRERAS, PRESIDENT, RECYCLING RESEARCH, INC., MORTON, PA.

Mr. **Petrie**. Mr. Chairman, I'm Jerry Petrie, the general manager and one of the founders of the nonprofit beverage industry recycling program of Arizona, more commonly known as BIRP. It's nice seeing you again. Generally, of course, our program is regarded as the most successful program of its kind in the Nation.

This program started in 1971 as the positive approach in dealing with container litter and solid waste, the creation of the Arizona Wholesale Beer & Liquor Association and the Arizona Soft Drink Bottlers Association in Arizona. It is, of course, in sharp contrast to what we consider the negative approach created by forced container deposit laws still being promoted in Oregon as the answer to our Nation's litter problem.

We all want to reduce container litter and solid waste and our program does this without penalizing consumers through the creation of a cumbersome and expensive retailer redemption system for the return of those containers. Instead, it benefits them by providing a new source of income for their voluntary participation in recycling, not just the return of their own money.

The BIRP recycling program is the free enterprise solution to the container litter problem. It's created a steady market for the sale of empty containers in the State of Arizona and rewards those who involve themselves with the process and that is most of the residents of the State.

In Oregon, a State about the same size and population as Arizona, beverages cost some 4 or 5 cents more per container, not including the deposit fee. I know. I checked many stores there, especially in the Portland area, and I reviewed their advertised sales specials in the newspapers for comparison in the Phoenix area. The facts are clear—deposit programs cost consumers more money. The admissions were made here today that it costs about 2 cents a container to handle them at the grocery store or retailer level.

Oregon spends much more than Arizona on highway litter cleanup. We discussed this several years ago, if you remember. If voters want to pay more in Oregon for cleaner highways, we think that's great in Arizona. We spend around a half million dollars a year and have for the last 10 years. If they want to spend more for beverages, we think that's their choice, too. But why try to impose this program on us? Why should they try to stop more than a decade of progress in Arizona, stop the distribution of millions of dollars to Arizona citizens and, frankly, scuttle the growing number of similar programs in other States?

We don't need the Federal Government telling us how we should handle our container redemption program. Our own legislature didn't even introduce the bill this year. It wasn't under consideration. We don't need a Federal program that mandates the return of containers hundreds of miles back to their processing points. Look how much energy would be used, speaking of energy, if Alaska and Hawaii had to return all their beverage containers back to the processing point.

In Nevada, they've tried it. Nonreturnables just don't work. The population is just too transient to return containers. Each State ought to be able to decide how it can best deal with the problem of container litter and solid waste in the most efficient matter.

In Arizona, private recycling programs are effectively dealing with this problem. Our program started with a single center in Phoenix April Fool's Day 1971, before the Oregon deposit legislation started. We currently operate a statewide network of 21 permanent locations, redemption facilities, that is, plus a mobile operation which serves 5 other communities, and we're still growing.

By the way, that covers all the big cities in Arizona, like in your State, too, Senator.

In addition, there are redemption programs at several distributor locations, convenient reverse vending machines—you saw an example of one from Joe Lamb with Coors today. We have those in Arizona. They're in grocery store parking lots. They are known in our State as Golden Goats. Supermarkets are in the business in Arizona, Safeway stores and Bayles Markets, Fry Dillon Foods. And then there are a host of other private recycles.

At BIRP alone, we paid the public over $21½ million for some 225 million pounds of material. Each month, we now pay about a half million dollars for over 3 million pounds of containers and newspapers. This summer, BIRP surpassed the 2-million-pound mark for aluminum cans, paying out as much as $580,000 in July, in 1 month.

Contrast that with the highway litter pickup cost for a whole year in Arizona, which was the same.

When you add in what other recyclers in Arizona are doing, we're talking about in July, a case of aluminum beverage cans per month for every man, woman, and child in the State were recycled.

So as you can see, the public has responded. The BIRP-type program of voluntary recycling is working well, so well that it is now being employed—I got one up on you this year, Senator—in seven States, from neighboring New Mexico and Nevada to Tennessee, Kentucky, as well as Maryland, South Carolina, and North Carolina.

Your support of S. 709 would bring our voluntary recycling program to a halt. You simply cannot have a voluntary system working with a mandatory deposit. So what we'd like to suggest, in closing, is why not look to a more comprehensive approach, one that doesn't deal only with a small portion of litter, one that encourages public recycling programs, such as ours, as a permanent way of life, one that involves public education programs to tell the people just what litter is and what its sources are.

In Arizona, public education has always been a major part of our recycling effort. We're currently working with the city of Phoenix to develop a clean community system so that we can continue to do a better job of educating the public about litter and litter prevention.

That's the answer. That's much more in the public interest than mandatory deposits for certain beverages. The so-called bottle bill just doesn't work and, in any case, I think in Oregon it's a misnomer. Proponents hoped it would lead to an all-returnable-bottle system, but look at Oregon now. I've just been up there and did. After a decade, the same time as our program has had, the package mix has just about returned to where it was in the beginning. Cans dropped for the first year and now they've come back to approximately the same share of the market they had 10 years ago. The only difference there is, as I said, is cost. Deposits are a costly system and this is not the time to be considering the addition of a Government program that will add to inflation. We'd like to have you let private enterprise continue to do it.

Frankly, I think you got the ball rolling 10 years ago. And now if you'll just let industry take it over from here, I think we'll end up with recycling all over the country. That's the testimony that you're going to hear after me today.

Thank you, sir.
[The statement follows:]

STATEMENT OF A. J. "JERRY" PETRIE, GENERAL MANAGER, ARIZONA BEVERAGE INDUSTRY RECYCLING PROGRAM

Mr. Chairman . . . members of the committee. I'm Jerry Petrie, general manager and one of the founders of the non-profit Beverage Industry Recycling Program of Arizona . . . more commonly known as BIRP . . . and more generally regarded as the most successful program of its kind in the nation.

This program was started in 1971 as the *positive* approach to dealing with container litter and solid waste, the creation of the Arizona Wholesale Beer and Liquor Association and the Arizona Softdrink Association. It is a sharp contrast to the *negative* approach created by forced container deposit laws, still being promoted by some in Oregon as the answer to our nation's litter problem.

We all want to reduce container litter and solid waste. Our program does this without penalizing consumers through the creation of a cumbersome and expensive retailer redemption system for the return of those containers . . . instead, it benefits them by providing a new source of income for their voluntary participation in recycling, not just the return of their own money.

The BIRP recycling program is the free enterprise solution to the container litter problem. It has created a steady market for the sale of empty containers in the State of Arizona and rewards those who involve themselves with the process . . . and that is most of the residents of the state.

In Oregon, a state about the same size and population as Arizona, beverages cost some four to five cents more per container, not including the deposit fee. I know. I've checked many stores in the Portland area and reviewed their advertised special sales in the newspaper for comparison to the Phoenix area. The facts are clear. Deposit programs cost consumers more money.

Oregon also spends much more than Arizona on highway clean-up programs. If voters there want to pay two to three times more than the half-million dollars we spend on highway clean-up programs, fine. If they want to spend more for beverages, that's their business.

But why should they try to impose their program on us? Why should they try to stop more than a decade of progress in Arizona . . . stop the distribution of millions of dollars to Arizona citizens . . . and scuttle the growing number of similar programs in other states?

We don't need the Federal government telling us how we should handle our container redemption program. We don't need a Federal program that mandates the return of containers hundreds of miles back to their processing point. Look at how much energy would be wasted if Alaska and Hawaii had to ship all beverage containers back to the processing point.

In Nevada, non-returnables just don't work. The population is too transient to return containers. Each state should be able to decide how it can best deal with this problem of container litter and solid waste in the most efficient manner.

In Arizona, private recycling programs are effectively dealing with this problem. Our program started with a single center in Phoenix on April 1, 1971 . . . before the Oregon deposit program was started. We currently operate a state-wide network of 21 permanent redemption facilities plus a mobile program which serves an additional five communities . . . and we are still growing. In addition, there are redemption programs at several distributor locations, convenient reverse vending machines in many parking lots which pay for aluminum cans known as Golden Goat, supermarkets which pay for aluminum cans and other private recyclers.

At BIRP alone, we have paid the public over $21.5 million for some 225 million pounds of material! Each month, we pay out about a half-million dollars for over three million pounds of containers and newspapers. This summer, we surpassed the two million pound per month mark for aluminum cans, paying out as much as $580,000.

When you add in what other recyclers are doing, we're talking about a case of aluminum beverage cans per month for every man, woman and child in Arizona.

The public has responded. The BIRP type program of voluntary recycling is working well. So well that it is now being employed in seven other states, from neighboring New Mexico and Nevada to Tennessee and Kentucky as well as Maryland, South and North Carolina. That's more than the number of deposit states.

Your support of Senate Bill 709 would bring this to an abrupt halt. You simply cannot have public recycling and mandatory deposits operating together.

Why not look to a more comprehensive approach to the problem . . . one that doesn't deal with only a small portion of total litter . . . one that encourages public recycling programs such as ours as a permanent way of life . . . one that involves public educational programs that tell people just what litter really is and what its sources really are.

In Arizona, public education has always been a major part of our recycling programs. We are currently working with the City of Phoenix to develop a Clean Community System there so that we can continue to do a better job of educating the public about litter and litter prevention.

That's the answer. That's much more in the public interest than mandatory container deposits for certain beverages. The so-called Bottle Bill just doesn't work . . . and, in any case, it is mis named. Proponents hoped it would lead to an all-returnable bottle system, but look at Oregon. After a decade of deposits there, the package mix has returned to about what it was originally. Cans dropped for the first year, and then came back.

The only difference there is cost. Deposits are a costly system and this is not the time to be considering the addition of the government program that will add to inflation. Let private enterprise continue to develop its solution to this problem.

The CHAIRMAN. Mr. Carreras?

Mr. CARRERAS. Thank you, Senator. My name is Ed Carreras from Recycling Research, Inc. Our company is recycling plastics.

The topic I would like to discuss today is plastics and the recycling of plastics. Let me start out with a few basic facts: 1½ percent of all petroleum and natural gas used in the United States goes into plastics; 30 percent of the output of plastics goes into packaging of consumer products which relates directly to the Beverage Container Reuse and Recycling Act.

The single, most readily identifiable plastic of all those used in consumer packaging today is polyester soda bottles. Every consumer of soda bottles recognizes the plastic soda bottle. These plastic soda bottles are made out of polyethylene terephthalate, better known as polyester.

The CHAIRMAN. Let me interrupt you. That is a vote. I'm going to ask you not to just read your statement. I honestly have read it and I'm the only one here listening. So you don't have to read it to me. I've got to leave in about 5 or 6 minutes to go make the vote.

So if you could emphasize the points you want to make. Is it true that these bottles are recycled into polyester suits, these plastic bottles?

Mr. CARRERAS. We take the bottles, recycle them, and put it into the textile industry. The textile industry then takes this and puts it into pillow stuffing and things like this. They're not going into suits. A suit has been made. Goodyear has done this, I think, and a few other companies have tried it and have been successful.

The CHAIRMAN. Go ahead.

Mr. CARRERAS. Well, points that I want to make I'll summarize very quickly for you. First of all, a large volume of plastic is being used for the beverage containers. The volume of PET bottles will grow enormously over the next few years. Plastics are recyclable and marketable. Recycling Research is developing the methodology to recycle all plastics and finding viable markets for the recycled product. The recycling industry also will require thousands of people to be employed into this industry.

One area, if I have time, to cover is the process of recycling PET bottles consists of separating the bottles into four major components: The bottle, which is PET, polyester; the base cup, which is high density polyethylene; the cap, which is aluminum; and the label, which is paper. We are recovering each of these components.

As mentioned previously, the recycling of the main component, polyester, shows a 50-percent energy savings over the manufacture of new raw material. The PET that goes into beverage containers is among the highest quality product of this type produced in the country today. This material, after it is properly recycled, will find no problem finding its way back into the textile industry. Estimates state that 100 to 200 million pounds per year can go into fiber fill alone. Fiber fill is polyester fiber used in pillows, comforters, ski jackets, stuffed toys, et cetera.

A second large market for recycled PET is the polyester resins, better known as fiberglass resins. Eastman Chemical has developed and published information on a process to accomplish this transformation with considerable cost savings, 16 to 20 percent, to the resin manufacturer over using virgin materials. This product would have an end-use in the form of sailboats, prefabricated bathroom units, automotive parts, and many other applications.

A conservative estimate of recycled PET that could go into this market is in excess of 100 million pounds per year.

So, in summation, the bottles are brought back. If we can receive these bottles, we can convert these bottles into usable raw materials at a considerable energy savings and there's plenty of room for this material to go once it's recycled.

[The statement follows:]

STATEMENT OF EDMOND J. CARRERAS, PRESIDENT, RECYCLING RESEARCH, INC.

The topic I would like to discuss today is "plastics" and the recycling of plastics. Let me start out with a few basic facts. One and one-half percent of all petroleum and natural gas used in the United States goes into plastics. Thirty percent of this output of plastics goes into the packaging of consumer products, which relates directly to the "Beverage Container Reuse and Recycling Act."

The single, most readily indentifiable plastic of all those used in consumer packaging today is polyester (PET) soda bottles. Every consumer of soft drinks recognizes a "plastic soda bottle". These plastic soda bottles are made out of polyethylene terephthalate better known as polyester or PET.

PET is the only plastic known today that complies with FDA standards on Toxicity and has the strength requirements to take the 40 PSI pressure of carbonated beverages, at an economical price.

Polyester was discovered by J.R. Whinfield and J.T. Dickson of the Calico Printers Association in England in 1937. Commercial development of this discovery did not reach significant proportions until the late 1950's when E.I. Dupont co. started to market Dacron. Today this material is a 5 billion pound per year industry in the United States encompassing three principal applications: textiles, films and beverage bottles. Some of the commercial names by which polyester is known include: Dacron, Fortrel, Kodel, Trevira, Mylar, Melinex and Cleartuf.

The first commercial PET beverage bottles were produced in 1977 following Dupont issuing its first license to manufacture PET bottles to Amoco Container Corporation in 1976. Amoco has been joined by several other companies including: Hoover Universal, Continental Group, Owens Illinois, National Can and Sewell Plastics as manufacturers of PET beverage bottles.

During the period from 1978, when a few million bottles were manufactured, to 1980 when PET captured a ninety percent plus share of the 2-liter soda bottle market, volume has reached 2 billion bottles per year, consuming more than 350 million pounds of PET resin per year. The reasons for this growth have been primarily the light weight and shatter-proof properties of the PET bottle compared to its glass equivalent.

What I have related to this point is history, what of the future? The plastics industry has targeted replacement of the sixteen ounce, single serving, non-returnable bottle with a half-liter PET bottle. Installed production capacity for the half-liter bottle will be in excess of 1 billion units per year by mid-1982 and should top three billion units per year by 1985. Other estimates believe that half-liter PET soda bottle production will be 5 to 6 billion units per year by 1985. There are reasons for these optimistic estimates. National Soft Drink Association data has shown that per capita consumption of carbonated beverages has risen from 90 quarts per year in 1970 to 155 quarts per year in 1980 and this growth is expected to continue at a 4 to 6 percent annual rate. Secondly, test marketing of PET half-liter bottles have demonstrated its enthusiastic acceptance. Again, the principal reason cited was the fact that a half-liter bottle weighs one ounce versus twelve ounces for the comparable glass bottle. This weight savings makes PET bottles conducive to multiple unit packages, such as six or eight packs.

In summary PET soft drink bottles are entering the individual portion part of the beverage market in large volumes.

There are two very good reasons to recycle post-consumer PET beverage containers: (1) An energy savings of fifty percent over the manufacture of new polyester, and (2) In times like these with solid waste disposal problems a product with a high volume to weight ratio such as PET bottles is particularly troublesome to landfills. This last problem is best described "like burying bubbles." The volume equivalent of burying the two billion 2-liter PET soda bottles manufactured in 1980 would be the same as burying more than 20,000 average size homes.

Recycling Research Incorporated is a technology oriented company founded with the objective of recycling all plastics. This technology consists of many processes, which as a system can achieve plastic recycled materials in an efficient manner. The various sources of raw material for this process include manufacturing and process scrap, previously disposed of materials, and consumer waste. In establishing this system RRI provides employment for 30 people and ultimately will have employment in excess of 200 people as the long term objectives of multiple locations are achieved.

The process of recycling PET bottles consists of separating the bottle into its four major components: PET, (Bottle) high density polyethylene, (Base Cup) aluminium (Cap) and paper (Label) and recovering each of these components. As mentioned previously the recycling of the main component, PET, shows a fifty percent energy savings over the manufacture of new material. The PET that goes into beverage containers is among the highest quality product of this type produced in this country today. This material, after it is properly recycled will have no problem finding its way back to the textile industry. Textile industry estimates state that 100-200 million pounds per year could go into fiberfill, alone. Fiberfill is the polyester fiber used in pillows, comforters, ski-jackets, stuffed toys etc.

The second large market for recycled PET is in the manufacture of unsaturated polyester resins, better known as "fiberglass resins". Eastman Chemical has developed and published information on a process to accomplish this transformation with considerable cost savings (16-20 percent) to the resin manufacturer over using virgin materials. This product would be used by the consumer in the form of sailboats, pre-fabricated bathroom units, automotive parts, and many other applications. A conservative estimate of recycled PET that could be used in this market is in excess of 100 million pounds per year. Other markets, including high performance molding resins, PET strapping, and high preformance coatings are also being explored.

In summary: I hope I have made the following points:

1. a large volume of PET is being used for beverage containers.
2. the volume of PET bottles will grow enormously over the next few years.
3. PET is recyclable and marketable.
4. The markets for recycled FET are large and can support all volumes available.
5. Recycling Research Inc. is developing the methodology to recycle all plastics and finding viable markets for the recycled product.

The CHAIRMAN. How long have you been in business?

Mr. CARRERAS. One year. We started in September.

The CHAIRMAN. What would be the effect one way or the other on deposit legislation on your industry?

Mr. CARRERAS. Well, we would obtain more bottles. Presently, we're getting from the bottle deposit States, but there's other areas that we're getting from. This is from the manufacturers' scrap. We're also looking into present landfills, where they've been dumping materials. We're also in the process of obtaining some of these materials. So we have three sources of material.

The **Chairman**. From your standpoint, would deposit legislation be desirable, from your business standpoint, or not, or really not make much difference?

Mr. **Carreras**. That's a point that we've discussed many times. If more bottles are brought back, there's more resin for us to create for industry. So I think, whether it's voluntary or mandatory deposit, we're going to get the bottles one way or the other.

The **Chairman**. Anything that simply encourages the return of more bottles is good for your business.

Mr. **Carreras**. Yes; that's right.

The **Chairman**. Mr. Petrie, what percentage of the number of beverage containers consumed by Arizonans altogether are recycled.

Mr. **Petrie**. Senator, up until a few years ago when the scrap dealers in Arizona and other States started realizing the economic viability of voluntary recycling and got into the program, we used to have accurate figures and we used to know exactly on a monthly basis what our return rate was. But now, in listening to Joe Lamb from Coors talk about an 80-percent return rate, frankly, I wouldn't know how you would find out what an exact return rate is any more, because everybody in Arizona is getting into the recycling business along with us and some of the materials are being shipped to small smelters in California and others are being sold to Alcoa, Reynolds, and Kaiser, which we deal with. Right now it's very difficult.

We estimate that through BIRP alone, that we're buying back two out of three containers in Arizona right now, of aluminum.

The **Chairman**. I was going to ask you, aluminum.

Mr. **Petrie**. And that's the only one that there is any true measurement. In Arizona, when we started, Coors Beer and Coca-Cola were the only packages in aluminum. Now every beverage container package in the State is aluminum. Of course, food containers are straight steel cans. We also buy them.

The **Chairman**. But very little in terms of glass or plastic.

Mr. **Petrie**. We buy plastic PET bottles. We also ship a half million pounds of glass to California every month to glass plants. We don't have a glass plant, as you're fortunate to have right out of Portland, which I went up to see recently.

The **Chairman**. When you say you don't have one, you mean you're just shipping the raw bottles?

Mr. **Petrie**. We ship the broken glass. It's called cullet. We ship tandem truckloads, 10 of them a month, to California. We also shipped in July, 31 railcars out of Arizona, aluminum cans, which is kind of remarkable.

The **Chairman**. You've got a very successful program.

Mr. **Petrie**. Well, you and I have been trying to solve the same problem for a long time. You just can't get on the same side of the fence.

The **Chairman**. Something similar to BIRP was attempted or is being tried both in Montgomery and Prince Georges County, but I don't sense it is doing very well. Are you familiar with their operation?

Mr. **Petrie**. Yes; I am. Bob Evers, who put the BIRP program there, spent several weeks in Arizona over a period of years looking at our operation and he tried to emulate our operation in Maryland, as you've indicated, a total buy back of all containers, plus, of course, newspapers. He just didn't have enough wherewithal to get the program started.

The **Chairman**. I've got to stop you. I've got to go and vote.

Mr. **Petrie**. I understand.

The **Chairman**. It will be about 15 minutes before I get back and we'll move onto Mr. Considine when I return.

Mr. **Petrie**. Thanks a lot, sir.

The **Chairman**. Thank you.

[Brief recess.]

The **Chairman**. The hearing will come to order.

Let's go on with Mr. Considine. Frank, are you ready?

STATEMENT OF FRANK CONSIDINE, PRESIDENT AND CHIEF EXECUTIVE OFFICER, THE NATIONAL CAN CORP., ACCOMPANIED BY MALCOLM W. OWINGS, VICE PRESIDENT FOR PUBLIC AFFAIRS, CONTINENTAL CAN CO.; PATRICK F. VANKEUREN, VICE PRESIDENT FOR LEGISLATIVE AFFAIRS, AMERICAN CAN CO., REPRESENTING THE CAN MANUFACTURERS INSTITUTE

Mr. **Considine**. All set, Senator.

The **Chairman**. Good.

Mr. **Considine**. My name is Frank Considine and I am president and chief executive officer of National Can Corp. I'm here today with my colleagues to represent the Can Manufacturers Institute.

Senator, I realize that you've about heard it all, and from time to time, I'm sure you wonder whose facts are correct. It gets a little difficult, even sitting here listening to it.

Before I begin. I would like to make a clarification. Senator Hatfield, in his written testimony, said that 5 years ago, Alcoa informed the industry that they wouldn't support antideposit legislation. That was true 5 years ago, but they've changed their position since then. Now they're no longer even neutral. They are against this type of legislation because they have seen the problems that result in some of these deposit States.

I would like to focus for a few minutes on the subject of litter, and then I would hope that you'd have some questions. One of the things that really bothers me from a logical point of view is that this legislation is directed toward only 15 percent of the total litter stream and it leaves 85 percent of it unanswered. This seems to be a very burdensome, very expensive cost to the public, to business, to industry, in order to solve just 15 percent of a problem.

It does involve plant closings. It does idle capacity and gives you higher cost on your manufactured product.

The last time I was here, a little short of 3 years ago, I said that we would stimulate our recycling efforts and at that time we were doing about 27 or 28 percent recycling. This year, and it's growing at a fast rate, we're up to about 50 percent of recycled aluminum cans. And, of course, if you check the beverage market, you know that probably about 85 percent of the beverage market is aluminum.

You know that recycling saves vast amounts of energy. These cans go back to be made into new cans, and that's a substantial energy savings. This is something that I believe is too often overlooked yet should be a part of any discussion of the deposit issue.

We know for a fact that this legislation will cut unit volume. It has reduced unit volume in the States where we've had experience with deposit laws. So what I'm saying is that I don't think we've been given full credit for the volume of cans that we're currently recycling, even though we've taken it from 27 percent in just short of 3 years up to 50 percent this year—and the volume is increasing. I can tell you that the rate of increase is substantial. Our company has about 3,000 centers around the country. In addition to industry efforts, there are other opportunities to stimulate recycling. The clean communities systems program that you read about in our testimony is one of them.

The National League of Cities—I would wish that the gentleman were here—I'd like to see the National League of Cities get more involved and get more interested on their own behalf. We'd certainly be glad to cooperate with them.

Prices, we know, do increase. I think there's plenty of documentation on that, and I'm not going to spend any time on it.

Nonvoluntary recycling isn't the way to solve any of the problems. Voluntary recycling is moving ahead in the metal container industry at an accelerated rate.

The CHAIRMAN. Let me ask you a question there, if I may.

Mr. CONSIDINE. Yes.

The CHAIRMAN. Assuming you've had very, very successful voluntary recycling, why wouldn't you still have a cost increase to the consumer?

Mr. CONSIDINE. To the consumer? They're doing it on a voluntary basis. They are bringing them back to our centers, not going through the stores. They're not going through the supermarkets, and they're not storing them until the truck comes around the next time. They don't have the sanitary problems.

The recycling we're talking about is coming through the regular industrial cycle.

The CHAIRMAN. How do the cans get to your recycling spot?

Mr. CONSIDINE. People are bringing them in in bags.

The CHAIRMAN. That's what I mean. They're driving there, walking there, they're bicyling there. They're getting there somehow.

Mr. CONSIDINE. Yes; one of the few things the Chicago Bears has going for them is a bunch of people going through the Soldier Field after the games and picking up cans. They come out with big bags of cans over their backs.

So it is catching on. From a public point of view, it's very attractive.

The CHAIRMAN. Well, are you saying that the reason, and the sole reason, that there would be no increase in cost to the consumers the way you're doing it is that you're centralizing recycling rather than consumers taking the cans back to the stores. If they are recycled voluntarily or recycled compulsorily, you still have the same cost apart from the collection, don't you?

Mr. CONSIDINE. It's voluntary handling. People are not forced to go back into the stores to get that redemption, back to the wholesalers to get that redemption, all through the cycle, back on the trucks. Have you ever seen a truck driver shut off the motor while waiting to pick up empties? That energy cost is there.

So that segment of the cost is not in the system of voluntary recycling that we're using.

The **Chairman**. Isn't the trade-off the amount of time and energy, literally, that the consumers spend to get to the recycling centers, which are not as numerous as the local stores?

Mr. **Considine**. Yes; there is some, but that's not major. And what are they doing anyway? What are the children doing anyway? They'll take them to the nearest recycling station. We're making them more available all the time. There are independent recyclers. Well, we call them recyclers today. It's like the bag boy in the currency van. They're scrap dealers.

And they're all over the country.

The **Chairman**. What's the key that makes voluntary recycling worthwhile now that didn't make it very worthwhile 5 years ago?

Mr. **Considine**. Money.

The **Chairman**. Just the cost, the value of the product?

Mr. **Considine**. To the consumer. We pay the public 25 cents a pound for aluminum cans.

The **Chairman**. How many cans in a pound?

Mr. **Considine**. It's about a pound a case.

The **Chairman**. OK.

Mr. **Considine**. About a penny a can is what you have to figure. And people are glad to pick these up and bring them back. This is the way to go, and this is what the free enterprise system is doing instead of a mandatory program that will reduce consumption. You know the jobs story. You've heard that. I'm not going to go into that. But this is the kind of thing, I think, that will solve the problem if you let industry move ahead the way we are.

And let's say you got to an 80-percent or an 85-percent return rate. We're at 50 now. And are we going to penalize the industry, the jobs and everything with it, to accomplish 35 percent if we know we're going to go up to 60?

So if you consider the costs involved, it is clear that the overall benefit of this legislation is negligible.

The **Chairman**. Question: In your testimony, you refer to the American Can Co.'s estimates of $3.8 billion more per year for beer and soft drinks and $500 million lost in forefeited deposits, for $4.3 billion. I don't know how they came to those figures. Do you know how they got those figures?

Mr. **Considine**. Senator, Pat VanKeuren is here from American Can.

Mr. **VanKeuren**. Senator, we've been running price surveys to determine the price differential between a deposit State and surrounding nondeposit States. We established that differential at about 4 cents a unit.

The **Chairman**. And you assign the whole differential to the deposit.

Mr. **VanKeuren**. Exclusive of the deposits.

The **Chairman**. No; I understand. You assign the whole cost to the existence of the deposit legislation.

Mr. **VanKeuren**. The difference between a deposit State and a nondeposit State is the differential we worked with.

The **Chairman**. Yes; OK, go ahead.

Mr. **VanKeuren**. Then we determined the volume by package type. The volume on cans is different than it is on 16-ounce bottles. Working that all the way through, we came out with increased costs of $3.8 million. We estimate 10 percent of the deposits are forefeited and not returned, adding another $500 million. So the total cost becomes $4.3 billion. Of course, you can deduct from that the recycling value, which may be in the magnitude of $265 million annually. But we still come out with a total cost to the consumers for a national deposit system of $4 billion, according to our estimates.

The **Chairman**. What will be the attitude of the industry if another half dozen to a dozen States adopt this legislation? You've got a potpourri of miscellaneous deposit laws around the country, none of which are particularly uniform.

Mr. **VanKeuren**. I'll let my colleague from Continental Can, Mal Owings, talk about that.

Mr. **Owings**. I think that asking that question presumes something because for the last 3 years, there haven't been any additional States go to deposits and now we have 11 States with 33 percent of the population with alternative laws. Just three last year joined this group in these other programs to go after litter. That includes clean community systems States and also includes Tennessee, where the Governor decided that deposits was not the way to go.

So the real trend in the country is toward States solving it in various ways, either litter recycling laws or a combination of clean community systems and/or in combination with voluntary recycling.

The deposit States have stayed at the seven States, with 9 percent of the population, really for sometime now. The only difference that has occurred is Delaware has done away with their contiguous States amendment and even though they passed it some time ago, it won't go into effect until next year.

So the trend is hardly there for deposits. But to get back to your question, what would happen, I would suspect very strongly that you would not want to have a Federal bill. I certainly wouldn't. I wouldn't want it. I just moved into the State of Connecticut and I've never seen such, frankly, dirty retail food stores in my life. The department of sanitation head in New York, from his own testimony stated that 700 tons to 1,000 tons per day would disappear out of solid waste. Where do you think that would disappear to? That would then be rerouted through the food stores of New York City. That's what they're concerned about.

The **Chairman**. So you would just as soon, if you have no choice, have miscellaneous States have these laws, even though it may, as Coors indicated, given them some manufacturing inconvenience than a uniform Federal law.

Mr. **Owings**. There isn't a manufacturing inconvenience, for many, many years in the can industry, many states had different tax laws. We made tax deposit ends. We made tax ends for Iowa, for Missouri, for different States.

The **Chairman**. What do you mean, tax deposit ends?

Mr. **Owings**. A state has a tax on a can of beer of 1 cent, 2 cents, whatever. The law requires that it shows that tax has been paid.

Therefore, the can company makes a special lithograph label that says 1 cent tax paid on that end.

Mr. **Considine**. Senator?

The **Chairman**. Go ahead.

Mr. **Considine**. I wanted to comment on that because that impressed you in terms of the national scene. That's not a problem. It does increase. But we're doing it anyway. We've been doing it for years. Every little bottlecap that goes on a bottle, for example, has to be lithographed. If you ever seen what we get on the top of a bottlecap, it's amazing?

The **Chairman**. Has to be what, now?

Mr. **Considine**. It has to be lithographed, printed. This is not that kind of a manufacturing problem that we would like that in any way would relate to the trade off for mandatory legislation.

You asked a question and you got part of the answer. But I'd like to make a point on it. If more States go, we'll cope with it somehow. We're not going to give up. We're not going to go out of business. But the fact is we will close some plants. You closed a plant. You talked about Michigan. Nobody ever said anything about our can plant outside of Detroit closing up with 150 some jobs in it at $17, $18 an hour, or the costs associated with that. Or the one that we've had in Washington that served Oregon.

Now those are the things that will happen. We'll continue to close plants, and it will continue to be a hardship for everyone affected by it. I heard our commissioner from New York talk about the bottom line today. You have to close plants. If you take away that volume, you will have to close plants.

So it's real, and that's all I'm going to say. It's a real problem for us. Thank you, Mr. Chairman. If there are other questions, Senator, we'd be glad to respond.

The **Chairman**. No, I think not, gentlemen. Good presentation. I apologize for delaying you a bit while I went over to vote.

Mr. **Considine**. That's OK. Thank you, Senator.

[The statement follows:]

STATEMENT OF FRANK CONSIDINE, PRESIDENT AND CHIEF EXECUTIVE OFFICER, NATIONAL CAN CORP., REPRESENTING THE CAN MANUFACTURERS INSTITUTE

My name is Frank Considine, I am the President and Chief Executive Officer of the National Can Corporation. I am here today to represent The Can Manufacturers Institute (CMI).

CMI member companies manufacture some 90 percent of the almost 100 billion cans produced in this country each year. We are very familiar with the provisions of the deposit bill and the important issues which underlie it. I am pleased to have the opportunity to present to the Commerce Committee The Can Industry's strong opposition to this legislation which would impose mandatory deposits on beverage containers.

Proponents make many promises about the potential benefits of a mandatory deposit system. When given all the facts, however, voters have rejected deposit initiatives successively in Colorado; Alaska; Nebraska; Howard County, Maryland; Stevens Point, Wisconsin; Ohio; Washington; and Montana. Since January, 1979, some 30 State Legislatures have debated roughly 100 mandatory deposit bills, but not one State has enacted such a measure.

My remarks today will cover six different facets of this important subject: I. Litter, II. Solid Waste Disposal, III. Retail Prices, IV. Energy Conservation, V. Water Use, and VI. Employment. We believe any discussion of the mandatory deposit issue must deal with the impact of such legislation on all of these subject areas.

I. LITTER

Proponents of mandatory deposit legislation claim the deposit system will largely eliminate or at least significantly reduce litter. That is simply not so.

An important distinction must be made between total litter and beverage-related litter. According to a study by the Institute for Applied Research, beverage-related litter accounts for no more than 16 percent of rural highway litter and less than 5 percent of urban street litter.[1] S. 709 addresses only the problem of beverage-related litter. Therefore, even if passage eliminated all beverage cans, bottles, caps and pull tabs from the litter stream, some 84 to 95 percent of litter would remain.

Studies in three "deposit-law" states, Oregon, Vermont and Michigan, confirm these facts:

One year after the law took effect in Oregon, the state's own official litter study revealed that roadside litter was reduced by only 10.6 percent. Urban residential litter decreased only 1 percent.[2] A study five years later showed a reduction of only 3 percent.[3]

Two years after the Vermont law became effective, litter was reduced by only 14.6 percent.[4]

Michigan, the first urban-industrial state to pass a deposit law, produced striking statistics. The state legislative committee discovered that even though beverage litter was reduced, non-beverage litter increased 37 percent during the law's first year and total litter had demonstrably increased.[5] The law produced no significant reductions in roadside litter, where beverage-related litter is most noticeable. Litter pick-up crews in Michigan faced essentially the same task as they did before the law was enacted. The official litter study indicated a very insignificant pick-up cost reduction of 3.8 percent;[6] meanwhile, the state's litter control budget grew from $1.7 million before the law took effect to $2.2 million two years later.[7]

The reason for the ineffectiveness of the law is clear. Beverage containers comprised 8.6 percent of total litter in Michigan before the law took effect in December, 1978.[8] Since the deposit law pertains to beverage containers only, its effect on litter in Michigan was minimal

We suggest a more comprehensive and effective approach to the litter problem. Many such programs are currently in operation in the various states and localities. Eleven states with 33 percent of the U.S. population (some 70 million people) have enacted comprehensive litter/recycling laws which employ public education, enforcement and recycling to reduce all types of litter and waste—a much lesser burden to the consumer.

In the state of Washington, whose pioneer litter/recycling law has been in effect as long as Oregon's deposit law, total litter was reduced by 66 percent four years after the law took effect.[9] A follow-up study found that all litter decreased another 14.8 percent during 1975–77.[10]

Compare Washington's success with the situation in Oregon. A detailed 1977 study of 110 comparable locations in both states found that Washington State has 29 percent less litter than Oregon. In urban areas, where litter is most often seen, Washington has 52 percent less litter than Oregon.[11]

California and Virginia also have litter/recycling laws. In California, $6.25 million of an overall $10 million budget will go to litter clean-up, enforcement and recycling programs.[12] In Virginia, a litter study done after the litter/recycling law's first year showed a 66 percent reduction in total highway litter.[13]

Another approach is the Clean Community System (CCS), a voluntary and non-legislative litter abatement program sponsored by Keep America Beautiful, Inc. More than 230 communities, as well as the governors of Georgia, Virginia and

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[1] Institute for Applied Research, 1978.

[2] "Study of the Effectiveness of the Oregon Minimum Deposit Law," Applied Decision Systems for the State of Oregon, 1974.

[3] "Litter Reduction Effectiveness," Institute for Applied Research for Continental Can Company, 1977.

[4] "Beverage Containers: The Vermont Experience," U.S. Environmental Protection Agency (SW139), 1975.

[5] "Michigan Litter; After," Institute for Applied Research for the State of Michigan, 1980.

[6] Ibid.

[7] Highway Maintenance Division, Michigan Department of Natural Resources, 1981.

[8] "Michigan Litter; After."

[9] State of Washington Department of Ecology, 1977.

[10] Ibid.

[11] "Litter Reduction Effectiveness."

[12] California State Solid Waste Management Board, January, 1981.

[13] "Clean Virginia Report II," Virginia Division of Litter Control, June 30, 1980.

Nebraska, have chosen CCS over mandatory deposit laws. By controlling both "litter" and "littering," CCS has helped to make littering socially unacceptable, increased litter clean-up activities, improved enforcement of updated litter laws, and encouraged recycling.

The longer a community is part of CCS, the better its litter reduction rate. For example, two cities which have used the program for five years have achieved an average urban litter reduction of 74.5 percent. Sixteen cities with three years' participation in the program reduced litter by 53 percent. Twenty-six cities with two years' experience reduced litter by 51 percent. Seventeen cities reduced litter by 44 percent after just a year in the program.[14]

II. SOLID WASTE DISPOSAL

Mandatory deposit proponents argue that enactment of a federal deposit law would significantly reduce solid waste and help conserve resources. However, there are more effective and much cheaper ways to accomplish these laudable objectives.

The latest report on the deposit issue by the U.S. General Accounting Office (GAO) cites a solid waste reduction of 6 percent in Michigan but retains its 1977 projection of a 3 to 4 percent reduction if a national deposit law is implemented.[15] (See Appendix 1, for a copy of the Can Manufacturers Institute's critique of the GAO report.) After an exhaustive two-year study, former President Carter's Resource Conservation Committee concluded in 1978 that a federal deposit law would reduce the nation's solid waste by only 2 percent.[16]

Solid waste, of course, consists of much more than just beverage containers. The U.S. Environmental Protection Agency (EPA) estimates that beverage cans and bottles make more than 5 to 6 percent of solid waste.[17]

What about the cost-effectiveness of deposit laws in reducing solid waste? The management of solid waste involves both pickup and disposal. Testimony has shown that slight reductions in solid waste produce no incremental savings in pickup costs, but they do produce savings of about $8.00 a ton in disposal costs.[18] A 2 percent reduction in the some 136 million tons of solid waste produced in 1979 would have saved the nation at most some $22 million. This is a small benefit compared to the total economic cost of just Michigan's deposit law alone. According to a beverage spokesman, the deposit law will cost Michigan industry, government and taxpayers $180 to $200 million each year. A Federal law would cost billions of dollars; clearly, the benefit is outweighed by the costs involved.

There *are* cost-effective approaches which seek to reduce solid waste and, at the same time, recover sizable quantities of valuable resources.

One approach is called "source separation." Under this program, pre-sorted recyclable materials are collected at curbside or dropoff locations, or through solicitation of paper and other materials by charitable or civic associations, According to EPA, there are some 300 municipal source separation programs now in operation.[19]

On its own inititive, private industry also has created many opportunities for voluntary recycling. In 1980 alone, an estimated 600 million pounds of aluminum, or approximately 14.5 billion aluminum cans, were recycled. Consumers received about $150 million for voluntarily returning their used containers.[20]

Litter/recycling laws, such as the one in Washington State, have caused an increase in the number of private recycling centers. In Washington, the number of private recycling centers grew from 200 in 1976 to about 725 by 1979. In 1979 alone, 395,260 tons of cans, bottles, and newspapers were collected and recycled for a dollar total of 31.2 million. Washington's law saved a minimum of $4.5 million in solid waste disposal costs in that State.[21]

Yet, even as recycling now flourishes in Washington, many private recycling centers in neighoring Oregon have been forced out of business. Aluminum and steel are the materials which make recyling profitable. When they are removed from the litter stream, it is often impossible for paper, plastics and other materials to keep recycling centers in business.

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[14] Keep America Beautiful, Inc., August, 1981.

[15] "States' Experience with Beverage Container Deposit Laws Shows Positive Benefits", U.S. General Accounting Office, PAD-81-08, December 11, 1980.

[16] "Findings and Staff Papers on National Beverage Container Deposits," Resource Conservation Committee, January, 1978.

[17] "Resources and Environmental Profile Analysis of Nine Beverage Container Alternatives," U.S. Environmental Protection Agency, (530/SW 91c), 1974.

[18] American Can Company Research Department, March, 1980.

[19] National Center for Resource Recovery, 1981.

[20] "Aluminum Recycling—Potential and Problems," speech by Dr. Robert F. Testin, Reynolds Metals Company, February 24, 1981.

[21] "1979 Recycling Hotline Survey," State of Washington Department of Ecology, April, 1980.

III. RETAIL PRICES

In the states with mandatory deposit laws, consumers face massive but not surprising increases in the retail prices of beer and soft drinks. The reasons are simple. With billions of empty cans and bottles being returned, grocers have been forced to hire more help, build or rent additional space to store empty containers, purchase new equipment, and spend much more money on sanitation. Beer wholesales and soft drink bottlers have found it necessary to buy additional trucks, hire additional drivers, and build larger warehouse space. These are real-life costs of the deposit law which necessarily must be passed on to beverage consumers through higher prices.

Surveys of beer and soft drink retail shelf prices in "deposit-law" states illustrate what happened:

In February, 1981, the Iowa Department of Environmental quality published the results of a survey conducted each month from January, 1971, through March, 1980. According to the survey, Iowa's deposit law, which went into effect on July 1, 1979, caused beer prices to increase 2 to 3.3 cents per container and soft drink prices to increase 2.5 to 3.3 cents per container. (See Appendix 2) On August 5, 1980, the Des Moines, Iowa, *Tribune* estimated the cost of the law to Iowa consumers at $20 million per year. (See Appendix 3)

In January, 1981, a full year after the Connecticut deposit law took effect, the Hartford *Courant*, an outspoken Deposit-law advocate, found in its own survey that consumer prices had increased dramatically, as much as $3.00 to $6.00 per case of beer. This same article also points out that state beer exise tax revenues dropped as a result of reduced consumption caused by the higher prices. (See Appendix 4)

Comprehensive price surveys of beverages in deposit law states and their neighbor states conducted by Retail Tracking Index in April, 1979 and May, 1980, further confirm the Iowa survey results. They show that in addition to the deposit, consumers in deposit law states were paying an average of 25 cents to 33 cents more per six-pack of beer and 6 cents to 24 cents more per six-pack of soft drinks. A study by the Michigan Food Dealers Association revealed the price of a six-pack of beer in cans has increased 14 percent, while the price of a 12-pack had climbed 19 percent.[22]

Nowhere is there any evidence to support proponents' claims that prices level off or go down after a state implements a deposit law. Quite the contrary, deposit laws cause prices to increase more than those in neighbor states and these prices continue to be higher over time.

As further evidence that consumers pay a higher premium for a deposit law, we have submitted for the record copies of two recent articles published in the Boston Globe by two highly respected Harvard economists, Martin and Kathleen Feldstein. Their analysis concludes that a deposit law in Massachusetts would constitute a hidden tax and would cost consumers in that State more than $100 million per year. (See Appendix 5)

Using statistics obtained from experience in "deposit-law" States, the American Can Company estimates that consumers would pay $3.8 billion more per year for beer and soft drinks if a federal deposit bill were to be enacted. Add to that the projected $500 million which would be lost each year in forfeited deposits, and the total cost of a federal deposit law climbs to a highly inflationary $4.3 billion.

Does it make sense to increase the consumer's burden so heavily for the sake of cleaning up only a small percentage of this nation's litter?

IV. ENERGY CONSERVATION

Deposit-law supporters indicate substantial energy savings would accrue if such legislation is enacted. A look at all energy uses involved. However, shows that to be false.

In "deposit-law" states, for example, the can is sometimes replaced by a heavier and bulkier bottle, requiring more and larger trucks to transport the containers. Frequently, it is necessary to dispatch extra trucks in order to pick up empties when regularly scheduled delivery trucks cannot handle the extra load. The additional up-front energy required is very substantial, although it is ignored by deposit-law proponents.

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[22] Story on Michigan Food Dealers Association Survey, Lansing State Journal, March 21, 1979.

A major west coast soft drink company reports that the deposit law requires twice as much gasoline as delivery systems in nearby non-deposit states. Distribution operations at its Washington Facility required 47.4 gallons of gasoline per 1000 packaged cases sold; its Oregon facility required 94.0 gallons for the identical number of cases.[23]

In Michigan, gasoline and Diesel fuel consumption have increased by an average of 25 percent per case for beer and 32 percent per case for soft drinks since the state's law went into effect. These percentages translate into a total of 4,380,000 extra gallons of fuel used in 1979; that is the equivalent of 325,000 barrels of oil—enough fuel to run 6,820 passenager cars at 17 miles a gallon for 15,000 miles apiece.[24]

Statistics show that refillable containers require one-third more oil than non-refillables. On the other hand, refillables require two-thirds less coal than non-refillables. Consequently, conversion to a refillable system would consume more oil, increasing petroleum consumption, while conserving the nation's most plentiful energy resource—coal.

V. WATER USE

This key ingredient to beverage production has largely been ignored.

During the past three years, there have been numberous areas exposed to moderate to extremely severe drought. The importance of water conservation has been magnified by continuing shortages in the Southwest, the East Coast (particiularly in the extreme drought areas of eastern Pennsylvania, Northern New Jersey, and southeastern New York) and last winter's serious snow shortages in Colorado, Wyoming, Nevada and California.

In states with deposit laws, there has been an increase in the use of refillable bottles. To determine the effects this trend has on the use of water, the Midwest Research Institute (MRI) in Kansas City, Missouri, conducted a research project on "Water Use in Beverage Filling Operations." In the spring and summer of 1981, MRI surveyed 60 filling lines in soft drink plants and breweries in several states.

According to this MRI study (See Appendix 6), refillable bottle lines in soft drink plants consume 4.1 gallons of water per case, whereas normal can lines consume only 0.26 gallons per case. In other words, a given number of refillable bottles consumes more than 15 times as much water as does the same number of cans. Data for beer filling lines shows a water consumption of 6.3 gallons per case for refillable bottle lines and 2.2 gallons per case for can lines, or about three times greater water consumption for refillable bottles than cans.

The U.S. Water Resources Council, which publishes information on current and projected water use, indicates that both the nation's surface and groundwater resources are being overdrawn at many locations across the country. (See Appendix 7, Tables A and B)

Clearly, water conservation is important. Just as clearly, national mandatory deposit legislation would be a step in exactly the wrong direction.

VI. EMPLOYMENT

In its 1980 review of the deposit issue, GAO indicated that a number of new jobs would be created by a national deposit law. An important jobs tradeoff was ignored.

The jobs which have been created by state deposit law are the unskilled, minimum-wage jobs of handling and sorting empty containers in stores and warehouses. These new, often part-time, jobs come to exist at the expense of the jobs of skilled workers whose sizable incomes provided for entire families and whose taxes supported their communities.

According to Connecticut's Labor Commissioner, 556 employees became temporarily or permanently unemployed during the deposit law's first year.[25] In addition, the impact of deposit laws in the New England region (Connecticut, Vermont and Maine) caused the shut-down of a glass manufacturing plant in Mansfield, Massachusetts, early in 1981, with a loss of 180 jobs.[26]

Some $95,000 was set aside by the Connecticut legislature to compensate citizens who might lose their jobs. In late 1980, the Connecticut Labor Department reported that at least $532,000 would be needed to compensate the 556 employees who had thus far qualified for the funds.[27]

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[23] "Gasoline Consumption, Mandatory Deposit Legislation." Pacific Coca-Cola Company, May, 1979.

[24] "Michigan Energy Study." Can Manufacturers Institute, September, 1979.

[25] "Rumblings over Bottle, Litter Laws," New Haven Register, January 10, 1981.

[26] Press Release, Owens-Illinois, Inc., January 29, 1981.

More than 800 skilled workers in two can and five glass manufacturing plants have lost their jobs as a direct result of Michigan's deposit law.[28] While GAO identified only 260 lost jobs in its 1980 report, it is clear that GAO neglected to include the more than 550 skilled jobs that were lost at out-of-state companies which directly or indirectly supply the Michigan market.

In addition, GAO's report fails to compare litter/recycling approaches with the mandatory deposit system from the standpoint of job creation. For example, voluntary aluminum can recycling alone has created 20,000 new jobs in the nation's more than 3,000 private recycling centers—at little or no extra cost to consumers.[29]

SUMMARY

Based on documented evidence of results in states which have enacted deposit laws, we believe:

Mandatory deposit legislation reduces litter which is beverage-related, but affects overall litter very little because only some 15 percent of total litter is beverage-related.

Mandatory deposit legislation has little or no effect on the problem of solid-waste disposal.

A mandatory deposit system consumes more, rather than less, petroleum-derived energy.

A system which may result in a return to the use of the refillable bottle will consume immense amounts of additional water.

A mandatory deposit system eliminates skilled, full-time, well-paid head-of-family jobs.

The extraordinary cost of a mandatory deposit system results in a dramatic price rise affecting all beverage consumers.

All available evidence indicates that a federal mandatory deposit law would be much less effective and infinitely more costly than an expansion of present state and local efforts to control litter and conserve and recycle materials now entering the waste stream.

[The appendices are not reproducible and are in the committee files.]

The CHAIRMAN. Next, let's take Mr. William Sadd. Go right ahead, sir.

STATEMENT OF WILLIAM W. SADD, PRESIDENT, GLASS PACKAGING INSTITUTE, WASHINGTON, D.C.

Mr. SADD. Thank you, Mr. Chairman. My oral testimony will bear little or no resemblance to the submitted testimony.

The CHAIRMAN. I hope that it will bear some resemblance.

Mr. SADD. Well, I've been making some notes as we've gone through the day. I think you've heard most of the arguments on both sides, so I'd just like to make a few comments.

The CHAIRMAN. I would appreciate and much prefer that.

Mr. SADD. Now first of all, I am really sorry that Senator Hatfield and Senator Danforth aren't here because I would like to add a little to their colloquy on the issue of stewardship and on the issue of whether decisions are going to be made at the Federal level or the State level.

I think that there is another element to that question, to Senator Danforth's question—not only whether we are going to make decisions of this type at the Federal or State level, but whether we are going to make the resource allocation decisions by a free market system, a free market economy system, as we are doing now, or whether we are going to try and dictate the resource allocation through Federal law. I think that that is a question which is raised here.

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[27] "Rumblings over Bottle, Litter Laws."

[28] Fact Sheet, Owens-Illinois, Inc., 1979.

[29] Press Release, ALCOA, January 22, 1981.

Now I'd like to point out to Senator Hatfield also that certainly, when it comes to resources, from the point of view of my industry, the glass container industry, we won't have to go to war over the resources. Sand, soda ash, and limestone are in this country in such abundance, I just can't say more to that point.

Turning to the testimony from the gentleman from the GAO, the GAO report, in my opinion, has one very correct statement in it and I can't say much for the rest of the report, nor could Mr. Weinberg. That statement is where they say that no one knows what the beverage container system will look like under a national deposit law. I certainly agree with that.

So then it is necessary to build and build and build on assumptions. Tear out any one of those assumptions and that house of cards will fall down.

So what is one of the conclusions in the GAO report? A conclusion that no jobs will be lost in the glass container industry. This strikes me as utter foolishness. Certainly, looking at the experience we have had in Oregon, in Michigan, in Connecticut, as a result of the Connecticut law, certainly at least one glass container plant, the entire plant is now shutdown. Mr. Considine was not kidding when he says, those with bottom line responsibility, when they see the volume drop under a national deposit law, are going to have to shut down complete facilities.

I am forced to make a prediction that if there were a national deposit law I would see the total demise of three to four companies in my industry—not just plants, companies.

The CHAIRMAN. Let me ask you, I assume that this is simply because the total container industry is not making as many containers. If we're going to lose jobs in glass and we're going to lose jobs in aluminum, nobody is saying that they're going to some other form of containers. It's just that there aren't as many being manufactured.

Mr. SADD. If that prediction comes true, then this will be the result, I am gravely afraid, because there are a number of companies in our industry that are not in good shape right now.

So what this all boils down to, Senator, in my opinion, and I've been around this issue for a decade—actually, I started out trying a lawsuit against the Oregon law, which we lost—but what I see here is increased costs to the consumer. I just don't think that there is any credible evidence that's been presented that would indicate that costs would go down. Certainly, just the 2 cents inherent in your bill would translate to $2 billion in increased costs. I see lost jobs or tradeoffs, at best. I see some less litter, some less solid waste, and an inconclusive argument on energy. From our point of view, it's a bad tradeoff. However, you see it other ways. Other people see it other ways and it becomes an emotional issue.

So we as an industry have been looking for affordable, effective programs to meet the environmental goals. That has led us to support litter/recycling laws at the State level.

That is the position we have taken and the position we intend to pursue. Thank you, Senator.

The **Chairman**. You're a very good witness. That is an example of an effective use of time, to make those major points that you had. I wish the others could have heard the rebuttal. It was well done. I have no questions, but let me congratulate you for using your time excellently.

Mr. **Sadd**. Thank you, Senator.

[The statement follows:]

Statement of William W. Sadd, President, Glass Packaging Institute

Mr. Chairman, members of the Committee, my name is William Sadd, president of the Glass Packaging Insitute. I am testifying on behalf of our member companies, which account for more than 85 percent of the domestic production of glass containers. These companies range in size from one-plant operations to diversified organizations with international sales.

Since our appearance in January 1978 before your Consumer Subcommittee, when hearings were held on a mandatory deposit bill, state governments have given considerable attention to the entire issue of litter and solid waste and examined the advisability of mandating minimum 5-cent deposits on all soft drink and beer containers.

Frankly, the trend in the states is against adoption of mandatory deposit laws, which attempt to address only six percent of solid waste and 20 percent of total litter at an inordinately high price.

We believe that most Americans want to return some power to the states and reduce the federal intrusion on their lives. This makes the prospect of a sweeping federal regulation forcing consumers to pay deposits on all metal, plastic and glass beverage containers seem inappropriate or at least contrary to voting trends throughout the country. This reaction against mandatory deposits has been clearly articulated by results in statewide referenda and state legislatures from coast to coast.

Allow me to review the track record of so-called bottle bills, such as S. 709 being considered today.

Since 1978, no statewide mandatory deposit law has been enacted. Furthermore, between 1972 and 1978 only six states followed the lead of Oregon by passing manatory deposit laws. There have been five statewide referenda on this issue in the past 3 years and all of the measures to require beverage container deposits suffered overwhelming defeats.

In 1978, voters in Alaska rejected mandatory deposits at the ballot box by a 60 percent majority. The same year, 57 percent of Nebraska voters defeated a statewide bottle bill. In 1979, voters in Washington State rejected mandatory deposits by a 52-to-43 percent margin, while the same day Ohio voters repudiated a statewide bottle bill initiative by a 72-to-28 percent landslide. In 1980, Montana was the only state to consider the measure at the ballot box and 71 percent of voting Montanans rejected the proposed regulation.

State legislators have not embraced this regulation either.

In 1979, 19 bottle bills were introduced in state legislatures and all were rejected. In 1980, 31 state legislatures considered deposit measures. Most of these proposals never got out of committee and the few that did were killed. In 1981, 27 state legislatures defeated mandatory deposits, although Delaware's 1978 mandatory deposit law did move closer to implementation with the removal of a contiguous states amendment.

In the past decade, a hard core group of deposit proponents have found legislative sponsors and gathered the necessary signatures—not many are required in most cases—to achieve ballot access. But the record speaks for itself: Proponents have failed to achieve a public or legislative consensus time after time.

I would like to offer a few telling reasons why this is the case.

First on my list is price. Mandatory deposit laws are inflationary. The cost of handling returned containers for the beverage industry is inevitably passed onto consumers, who are required to pay considerable deposit money. Perhaps the best evidence of the higher prices caused by deposits comes from the mandatory deposit state of Iowa, where the Department of Environmental Quality determined in a 1981 study that Iowa's deposit law had added 20 cents to the cost of six-packs of soda and canned beer, not including the 5-cent deposit on each container. These findings were echoed by a story in the August 5, 1980, Des Moines Tribune, which said, and I quote: "The bottle law cost Iowans at least $20 million during its first year—and that is a conservation estimate. That $20 million—$7.02 for every man, woman, and child in the state represents costs that can be directly attributed to the (deposit law)."

Shelf price surveys and news reports from other mandatory deposit states confirm these inflationary impacts. Connecticut is in the throes of the bottle bill, and the average cost of a six-pack of soft drinks increased from $1.69 to $1.97 within a few months after implementation of the law, according to an August 31, 1980, story in the Hartford Courant. The average cost of a six-pack of beer jumped 42 cents (or $1.68 a case), not including the deposit.

The price of mandatory deposits is even higher for Michigan consumers, according to a May 22, 1981, UPI story, which said, and I quote: "The generic beer advertised for $4.99 in (non-deposit) Indiana sells for an average of $10 here (in Michigan)." This is a $3.80 per-case inflationary impact, not including the $1.20 deposit.

This federal deposit bill calls for a two-cent handling fee in addition to the deposit. The fee, paid to retailers by distributors is, in the final analysis, absorbed by consumers in the form of higher prices for beverages. The handling fee is an explicit recognition on the part of the bill's sponsors that there is an enormous cost to this regulation. The two-cent per-container charge amounts to more than two billion dollars in added cost to consumers.

Beyond the inflationary impact, deposits have repeatedly failed to win a public or legislative consensus because they address—at a great cost—only a fragment of a broad problem of litter and solid waste. According to Cambridge Reports, a national public opinion research firn, voters reject Oregon-style mandatory deposit law when offered a litter-recycling law, a more comprehensive alternative that attacks all litter and reduces solid waste. These comprehensive litter-recycling laws are not in effect in nine states and combine litter clean-up efforts, stepped up litter law enforcement, recycling incentives, education and public awareness programs. These laws are working as superior alternatives to mandatory deposits in Washington State, California, Virginia, Nebraska, Ohio, South Carolina, Tennessee, Alaska and Lousiana.

Litter/recycling laws are generally funded by a small, broad-based assessment on those industries whose products wind up as litter-products such as plastic, paper, fast-food wrappings, cigarette packages and so on. In a typical case, the annual assessment is $150 per million of gross sales and raises about $1 million a year. This is a cost-effective means of addressing a problem.

On the other hand, let's look at mandatory deposit legislation, which proponents allege will solve the expensive problem of dealing with litter. Connecticut and Michigan, for example, enacted deposit laws and both states spent more for litter pick-up after the law was implemented than before. According to Rural and Urban Roads, a magazine published for highway and public works officials, Connecticut spent almost two million dollars on litter abatement in 1980—an increase of almost one-half million dollars over 1979 expenditures. Connecticut implemented its deposit law on January 1, 1980. Michigan, which implemented its deposit law on December 3, 1978, spent more the year after the law than before it. The reasons for this lack of financial benefit are obvious. Mandatory deposit laws ignore the total litter problem.

There are other basic misconceptions about the so-called "bottle bill" that need to be corrected. There is a major difference between the bill's intention and what it actually does. The bill is perceived by some as a measure that will bring back the era of the refillable bottle. It does nothing of the kind. The bill does not call for use of refillable bottles. It does not call for reuse or recycling. It merely places a minimum deposit on all existing soft drink and beer containers, plus a handling charge.

And finally, one thought on the issue of energy. It has always been my opinion that the claims of mandatory deposit proponents that the regulation would bring about energy savings is a red herring. Their claims are based on groundless predictions on what the market response would be after enactment of deposit laws. The response has differed in each of the six states now enacting the law—but there has been one common thread. To cope with returned containers, more gasoline has been used to deliver the product and to collect the empties. Any savings of coal or natural gas at the container maufacturing level is achieved by the idling of production facilities and consequent loss of jobs.

Predicting whether the net effect on energy usage is positive or negative is a lucrative game played by any number of consultants who cannot deliver any definitive answer. A competitive, free-market environment is the best means of ensuring that industry is delivering a product with the greates energy efficiency possible.

For these reasons, I urge you, on behalf of the glass container industry, to reject federal mandatory deposit legislation. Instead, join us in a positive way to explore solutions to environmental concerns which will use the forces of a free market—

rather than abuse these mechanisms—at a time when the economy cannot afford excessive government interference.

In conclusion, it is important to note that the debate continues year after year. The resources expended in time, energy and money on this issue could be much better spent on making multi-product recycling programs work and supporting comprehensive anti-litter programs.

[From the Des Moines Tribune, Des Moines, Iowa, Aug. 5, 1980]

Cost of Bottle Law: $20 Million

(By Chuck Hawkins)

The "bottle law" cost Iowans at least $20 million during its first year—and that is a conservative estimate.

That $20 million—$7.02 for every man, woman and child in the state—represents costs that can be directly attributed to the law. It is about 30 percent of the nearly $67 million that Iowans paid in higher beer and soft drink prices in the year ending June 30 a Tribune study has found.

The law probaby has had as much impact as any recent legislation on the day-to-day lives of Iowa's residents. Trips to grocery stores with bags of emtpy containers are reminders of the legislation, which made Iowa the fifth state to impose a nickel deposit for all beer and soda continers. (Iowa the first state to impose deposits on liquor bottles.)

The Tribune's cost analysis of the law apparently is the first of its kind—the state has not made a similar study nor does it plan one. Opponents of the law said the study backs their contention that the law is a costly way to conserve raw materials and rid the state of litter.

But Gov. Robert Ray remains an enthusiastic supporter. He cites the benefit to society from reduced litter and the indirect benefits that should result from recyling materials.

Whatever the merits of the litter issue, the study does illustrate the multimillion-dollar. "taxing" nature of a specific legislative action.

Findings of the Tribune study:

The impact of the law has been most pronounced in border cities; where beer sales are off as much as 20 percent because prices are lower in neighboring states.

Total Iowa beer sales were 2 percent lower in the 12 months after the law went into effect. Beer sales had been rising an average of 4 to 5 percent annually before the law.

Sales at state liquor stores were $127.2 million, or 4 percent higher in the fiscal year ending June 30 compared with a year earlier. Much of that increase can be attributed to higher prices, since bottles sold rose only three-tenths of 1 percent.

The state treasury did realize almost a $500,000 "windfall" from unredeemed bottles upon which it had received deposits, since only about 60 percent of the bottles have been returned.

But Rolland Gallagher, director of the Beer and Liquor Control Department, said added expenses due to the law nearly equaled $500,000. He said he was forced to cut some store hours because the windfall money goes to the state treasury and not his budget.

The return rate on beer and soda cans has stabilized at about 85 percent.

Litter has decreased dramatically along highways and roads and in parks. An Iowa Department of Transportation survey at 14 locations this spring found a 64 percent decline in bottle volume and a 78 percent drop in cans from a similar survey last fall.

What contributed to the cost of implementing the first year of the law?

The $20 million that can be attributed directly to the law is composed of three factors—the 1-cent-per-container fee wholesalers pay retailers for handling empties ($14 million), a cost passed directly to consumers; net cost of recycling containers ($5.3 million); and the reported higher costs for retailers to handle containers (estimate unavailable).

The rest of the $67-million total is due to inflationary causes such as higher fuel bills, labor costs and price increases from suppliers and breweries—and any widening of profit margins.

These amounts are actual price increases. They do not reflect the 5-cent deposit refunded when containers are returned.

The cost figures were calculated by The Tribune based on information provided by state agencies and beverage industry officials. No specific totals were available since none of the sources has initiated any wide-ranging studies.

Data proved to be inconclusive as to whether beverage wholesalers and retailers used the deposit law as an excuse to expand profits.

Industry officials deny they did; most contend the law has lowered their profits. However, beer and soft drink distributors pointed an accusing finger at grocers. Grocers point the finger back at distributors.

In July 1979—the month the law went into effect—substantial price increases were announced by beer and soda distributors. In Des Moines, beer distributors raised prices 60 to 75 cents a case. Soft drink increases were lower for most container sizes. The increases were due to anticipated lower sales and higher handling costs.

A private study by E. E. Fuller, director of state legislative affairs for American Can Co. in Greenwich, Conn., shows that Iowa grocers increased their markup above wholesale prices in the past year on the average from 19 to 27 percent.

Some grocers respond that costs associated with the law have forced in increase. Others deny their margins or costs are up.

Figures from the liquor department and the Iowa Wholesale Beer distributors Association show that about 26.2 million cases (24 containers per case) of packaged beer were sold in Iowa in the first year of the law. Package sales account for slightly more than 85 percent of all beer sales.

Information on the number of soft drink containers sold is not as precise. The best estimate, based on 1979 figures for sales of various container-size categories from the National Soft Drink Association, translates to 32.3 million cases, or 85 percent of all soda sales.

The total price increase estimate of about $67 million was based on a survey of 36 supermarkets in April 1979, before the law went into effect, and again in May 1980 by the Can Manufacturers Institute and Glass Packaging Institute.

The survey gives conservative totals because higher price increases, percentage-wise, from vending machines and convenience stores are not included.

The private study showed that the average case of a national brand beer increased $1.44 from April 1979 to May 1980, from $7.80 to $9.24.

The average price for a case of national brand soda in cans rose 96 cents, from $6.64 to $7.60. Increases were considerably less for 16- and 32-ounce returnable bottles and somewhat less for 2-liter plastic bottles.

The first factor in determining the $20 million that is directly attributable to the bottle deposit law involves computing the amount of the 1-cent handlers' fee:

Based on 26.2 million cases of beer and 32.3 million cases of soda, the handling fee comes to slightly more than $14 million—an amount directly passed on to consumers.

No specific figures are available on the second factor—net cost of recycling millions of cans and glass and plastic bottles.

G. Corey Groff, vice president of Recycling Services Inc. of Des Moines, which buys most of the cans collected in Iowa, said his company sells about 300,000 pounds of crushed aluminum cans weekly to Aluminum Company of America (ALCOA) for 30 to 35 cents per pound.

Most beer and some soda containers returned in the Des Moines area are collected by Container Recovery Inc., known as CRINC. It was formed last year by several beer distributors, Mid-Continent Bottlers Inc. and Porter Williams.

For collecting, sorting and preparing containers for sale to recycling firms, CRINC charges distributors 40 cents per case.

PROFIT AHEAD

Williams, who manages CRINC, declined to give any financial information about the operation, other than saying it would be six to seven years before it shows a profit.

But Charles Irvine, a co-owner of CRINC and owner of Core Creek Distributing Co., which markets Coors beer here, said that CRINC should show a profit within two years.

He said his net expense from recycling Coors cans and bottles is 50 to 60 percent of the 40 cents per case CRINC charges him. In other words, he gets back 16 to 20 cents from each case collected as payment for aluminum cans.

If Irvine's figures are applicable to other distributors (he was the only distributor interviewed who would talk about specific costs), recycling costs are slightly less than 1 cent per container.

Multiplying that amount by 24 (per case cost), then times 58.5 million beer and soda cases, comes to something less than $14 million.

But distributors also get to keep the 5-cent deposits from unredeemed containers—about 15 percent of sales—for a total of $8.7 million.

Subtracting that figure from the $14 million in recycling costs comes to $5.3 million—which has been passed on to consumers through higher wholesale prices.

The third unmeasurable factor is the claim that the 1-cent handling fee does not meet actual expenses.

Michael McCann, manager of Hy-Vee, 2559 E. Euclid Ave., placed the cost of handling refunds at his high-volume store at 3 cents per container—$2,000 to $3,000 per month more than he gets from handling fees. That money has to be recovered through higher beverage prices, he said.

SUSPICIOUS

Ed Stanek, director of the Iowa Energy Policy Council and an aide to Govenor Ray, said he is suspicious of all increases blamed on the bottle law beyond the 1-cent handling fee for retailers. "There should be significant revenue from recycling," he said.

Distributors have conceded that in many cases the price increases in anticipation of lower sales were higher than cost increases.

In other words, sellers placed the risk of lowered sales volume on the shoulders of consumers.

In Des Moines, the drastic sales drop never materialized. For the first six months of this year, beer sales in the Des Moines area were down 3 percent from the same period one year earlier.

Sales figures on border cities paint a far different picture. The Iowa Wholesale Beer Distributors Association reports that sales in the Sioux City area were 17 percent lower in May than the same month in 1979, 18 percent lower in Council Bluffs and 21 percent lower in the Burlington-Fort Madison area.

Donald Herzberg, vice president of the Scott Distibuting Co. in Daveport, blamed his 13 percent drop in sales to cheaper beer in Illinois, which does not have a deposit law.

He said law enforcement officials are making "no effort whatsover that I can see" to enforce the law forbidding bringing more than 24 12-ounce ber containers or 48 12-ounce soda containers into Iowa.

JOBS FOR KIDS

"The only thing I can say is that (the law) is costing the consumer a hell of a lot of money. They could have hired a heck of a lot of kids to keep the roads clean and done it cheaper for the consumer," he said.

State officials are sensitive to such charges. Proponents argued before the law was passed that cost increases would be minimal.

What do Iowans have to look forward to?

The Can Manufacturers Institute, admittedly biased against deposit laws, says the facts in Oregon speak for themselves:

". . . Beverage prices do not decline over time after the enactment of a deposit law, but, conversely, continue to escalate. . . . In Oregon, seven years after their deposit law took effect, consumers are paying an increasingly higher price for beverages than are consumers in surrounding states."

[The Boston Globe, Tuesday, Sept. 15, 1981]

THE BOTTLE BILL'S EVEN BIGGER COST

(By Kathleen Feldstein)

In our last column, we presented estimates of the costs that would be imposed by a "bottle bill" requiring Mass. residents to pay a refundable deposit on all beverage containers. In preparing our estimates, we relied on figures published by the leading supporter of the bottle bill, a group that calls itself the Public Interest Research Group (PIRG). We have now learned that their figures are seriously misleading and that the true cost of the bottle bill may be about 10 times as high as the figure that we presented.

PIRG starts its published "Fact Sheet" with the assertion that Massachusetts residents use "more than 250 million" cans and bottles every year. On the basis of that 250 million number, we calculated that the bottle bill would cost Mass. residents about $10 million a year, or about $2 a head.

In fact, Mass. residents consume very much more than 250 million bottles and cans—about 2 billion or 2½ billion bottles and cans. Michael O'Hare, a lecturer at Harvard's Kennedy School of Government and formerly the Massachusetts assistant secretary for environmental affairs, was the first to point this out to us. According to O'Hare. Beverage World magazine states that Massachusetts soft drink sales are equivalent to 90 million cases of 24 twelve-ounce cans or bottles, while the Mass. Wholesalers of Malt Beverages reported beer sales equivalent to 60 million 24-bottle cases of 12-ounce cans or bottles. A little quick arithmetic shows that these 150 million cases were equivalent to 3.6 billion 12-ounce containers. Since some beer and soft drinks are sold in larger bottles, the actual number of containers sold is less than the 3.6 billion figure. O'Hare said he and others at the Dept. of Environmental. Affairs believe the right number is about 2 billion and that there is no controversy that the actual figure is at least this large. Some industry experts estimate even more.

When asked about this discrepancy, a spokesman for PIRG admitted the 250-million figure is "out of date" and that their most accurate estimate would be 2 billion containers. Using these new and correct figures in our calculations raises the cost of the bottle bill to between $80 million and $100 million a year. Per person, that means between $16 and $20, or about $75 a year for a family of four.

We were uncertain last time about whether the prospect of reduced litter could justify imposing $10 million a year of total costs on Mass. residents, or about $2 per person. The new higher estimate of the costs imposed by the bottle bill obviously makes it much less desirable.

HIDDEN TAX

It seems very unlikely that the Legislature would enact a bill that adds nearly $100 million to Mass. taxes and spending in order to achieve whatever reduction in litter would follow from passing the bottle bill. It's obviously much easier though to impose a hidden tax that raises producers' cost and consumers' prices but doesn't have to go through the budget process. Indeed, as the debate over the bottle bill has shown, imposing this kind of hidden tax doesn't even require its proponents to calculate what the cost would be.

We've seen this same technique of hiding taxes in a whole variety of federal regulations aimed at firms and consumers. Through the Occupational Safety and Health Act, the Environmental Protection Act, the Mine Safety and Health Act, and other rules passd in the last decade, the federal government has imposed on companies billions of dollars of extra costs that we must ultimately pay as consumers. Similarly the strict automobile emission standards have raised the price of automobiles and decreased the gas mileage that a car could otherwise get. Would Congress enact such regulatory costs if they had to recognize the costs explicitly or finance them through the income tax?

As the pressure grows in Washington and in state capitals to limit tax collections and government spending, there will be more amd more temptation to shift costs directly to consumers and firms through regulation. It's important for voters to remain skeptical of such attempts and to ask the cost of all such plans to "improve our lives" through increased regulation.

GOVERNMENT CALCULATIONS

O'Hare also explained to us why the calculations that he did as assistant secretary for environmental affairs didn't reach cost estimates that were as high as ours. There were a number of technical issues but two of the differences strike us as particularly important and as very revealing of the way that the government approaches problems even when it is trying to be analytic.

First. O'Hare's calculation of the cost of the bottle bill did not explicity include any measure of the cost and inconvenience to consumers. In contrast, we think the burden on consumers is significant and must be included in the calculation to give a correct sense of the total cost the bill would impose. Bringing back 2 billion cans and bottles a year—more than a case a week for a typical family of four—is clearly a considerable nuisance that many of us would prefer to avoid.

We suspect that the failure to take explicit account of the inconvenience and cost to consumers is typical of the cost analyses that government agencies do to justify new spending and regulatory programs—when they bother to do any analysis at all. Road improvement projects that would create congestion for months or years and speed limits that waste billions of passenger hours might seem much less desireable if their full costs were properly calculated.

Second. O'Hare calculates a very low value for the costs that a bottle bill would impose on retailers, bottlers and manufacturers for the handling, storage and processing of more than 2 billion returned cans and bottles. Since he can't reconcile his low cost estimates with the higher consumer prices that he admits have occurred in the states where bottle bills have been enacted, he concludes the bottle bill merely raises the monopoly profits of the beverage industry!

We find this conclusion an unbelievable distortion of economic logic. Why should a bill that is going to raise the profits of the beverage industry be so strongly opposed by the industry itself?

At the retail level, the beverage industry is extremely competitive with thousands of grocery stores, supermarkets and liquor stores vying for the consumers' business. Although brand loyalty may allow manufacturers to charge for the unique character of their products, there is nothing about the bottle bill that would allow a monopolist to widen his price cost margin.

Identifying and calculating all of the components of the net cost that the bottle bill imposes on the beverage industry is very complex. We believe the increase in the market price of beverages is the best estimate of this extra cost that firms have to cover. O'Hare acknowledges that prices do rise substantially but, rather than considering the possibility that he may have omitted or understated any of the components of the net cost, he prefers to dismiss the price increases as the result of some monopolistic conspiracies.

Again, we suspect that such distrust of the market is characteristic of much government thinking about economic problems. And from this instinctive belief that markets are full of monopolists that do not serve the interests of consumers or reflect the true costs of production comes a myopic enthusiasm for government regulation.

If the governor is tempted to sign a bottle bill this year on the basis of the cost estimates provided by the Dept. for Environmental Affairs, we hope he'll take another look at the facts. Massachusetts doesn't need a new $100 million a year tax at this time.

[The Muncie Star, Friday, May 22, 1981]

STATE BRIEFS—BORDER DISPUTE ERUPTS OVER BEER AD

Lansing, Mich. (UPI).—Merchants and state officials are fuming over a law which allows an Indiana retailer to lure Michigan residents south of the border to take advantage of cheaper beer prices.

One billboard advertising generic beer at $4.99 per case is located almost directly above a Lansing store operated by Tom Jakovac, who is prohibited by state law from advertising his prices.

"The problem is this. We're powerless to do anything about it," said Daniel Sparks, an aide to the state Liquor Control Commission.

Efforts to legalize price advertising by Michigan beer and wine sellers have stalled in the legislature.

Price differences created by the state bottle deposit law and other factors are blamed by Michigan retailers for a growing cross-border trade in beer. The generic beer advertised for $4.99 in Indiana sells for an adverage of $10 here.

State law prohibits importing more than one ease without paying taxes, but it is widely flouted.

Bob Anderson, whose King's Cellar Beer Supermarket chain erected the billboard, said he has begun an advertising campaign across the mid-Michigan area. He said Michigan is a profitable addition to his market.

Anderson said he is convinced the state's one-case limit is unconstitutional and insists he is "just trying to provide the service."

He said he would move the sign located over the Lansing retailer.

[From The Arizona Republic, Sept. 21, 1981]

MISSING THE MARK

Buoyed by the passage of container-deposit laws in six states Oregon's Sen. Mark Hatfield is pressing for a nationwide law demanding deposits on cans and bottles.

To oppose such a measure is to risk being chided as some kind of anti-environmentalist, an aider and abettor of litterbugs.

But Arizona's Sen. Barry Goldwater nonetheless is taking a stand against the bill—and for the same good reason Arizona's other senator, Dennis DeConcini, could find himself opposing it if it gets to the floor.

The federal government already intrudes too much. This is a time to be cutting back intrusion, not introducing more of it.

In the first place, "bottle bills" smack of overkill. Beverage containers are only a small part of what thoughtless people litter about the streets, roads and trails of America.

Louts given to scattering trash in their wake won't likely be deterred by the higher cost of deposits on cans and bottles. They go on chucking the containers—and the bags boxes and wrappers which this bill would do nothing about.

Meanwhile, some people are doing something about litter—they're cashing it in.

At a penny a can and more, Boy Scouts and other youth groups build their treasuries with roadside clean-up projects. Arizona's Beverage Industry Recycling Project is doing so well that New Mexico, Kentucky and parts of Maryland are following its lead. Individual recycling companies also are seeing a silver lining to aluminum cans.

Researchers say those plastic pop bottles also are recyclable—not yet as practical as aluminum cans, but the time could come.

In states where bottle bills have become bottle laws, the cost of manufacturing all-returnable containers raises the price of a six-pack by 10 to 30 cents on top of the deposit.

That's a penalty that the vast majority of litter-conscious Americans should not have to pay.

THE GLASS PACKAGING INSTITUTE'S COMMENTS ON THE GENERAL ACCOUNTING OFFICE'S RECENT REPORT ON THE MANDATORY DEPOSIT ISSUE

GAO's recently released report on beverage container legislation is a highly-biased political document.

Why? Because:

The report lacks objectivity. It was requested by Senators Mark O. Hatfield and Robert Packwood, sponsors of mandatory deposit legislation who asked that no outside agencies be allowed to coment.

The report is not original research. It is a rewrite of a 1977 report which was based on 1974 and 1976 findings containing material which has been refuted.

The report is based on assumptions which support beverage container legislation, assumptions which GAO admits have already proven faulty.

The GAO report minimizes the severe economic costs of beverage container legislation and fails to consider alternative approaches which have proven more effective, comprehensive and less costly.

These inadequacies can be seen in the following areas:

LITTER

We do not refute GAO's claim that forced deposit legisaltion reduces beverage related litter, yet experience shows that forced deposit legislation does not always reduce total litter.

The GAO report cites Daniel Syrek's litter survey of Michigan which showed an increase in total litter. While beverage related litter decreased after implomentation of Michigan's deposit law, other types of litter increase.

Surveys of other deposit law states show only slight decreases in total litter. The Oregon forced deposit, implemented in 1972, reduced total litter by only 10.6 percent. According to a Maine Department of Transportation survey, Maine's forced deposit reduced litter by only 10 percent. Again, while beverage related litter declined, there were dramatic increases in other types of litter.

SOLID WASTE

The GAO report does not evaluate the severe economic consequences of forced deposit legisaltion in light of its slight impact on the waste problem. Beverage containers represent only a small segment of solid waste.

JOBS

There is no actual data to substantiate the GAO report's prediction of employment increases under a national deposit law. GAO's estimate is extrapolated from their assessment of employment increases in Michigan, an assessment which is based on an unrepresentative sample and inadequate assumptions.

There is no actual data which justifies GAO's figure on the number of unskilled positions created by Michigan's deposit legislation. GAO derives their total employment gain figure from the experiences of four major retailers and a handful of small retailers in Michigan.

GAO's employment gain figure for Michigan is based on the unrealistic assumption that "no store operates on the honor system and that no retail store has any slack time to handle returns with existing employees."

The GAO report does not evaluate the employment trade-off casued by forced deposit laws. While there are some employment gains in the areas of retailing and distribution these are unskilled and low-paying position, which do not justify the skilled, high-paying, head-of-household union jobs lost in beverage related industries.

The GAO report claims that a national force deposit will not cost the glass industry any jobs. This is highly inconsistent since over 1000 glass industry jobs have been lost due to forced deposit laws which now exist in only six states. Many other jobs have been lost in can manufacturing and other beverage related industries.

The GAO report does not compare employment increases that might be achieved through alternative solutions to litter and solid waste.

INCREASED BUSINESS COSTS

The GAO report minimizes the business costs of a forced deposit system. These costs are evaluated in 1974 dollars and when measured in 1980 dollars they are 66 percent higher.

The GAO report admits that retailers experience increased costs in a deposit environment and suggests that a penny handling charge will compensate for these costs. Retailers struggling with forced deposit laws have continually maintained that a penny handling charge does not adequately offset increased costs. In fact, legislators in mandatory deposit states routinely consider proposals for higher handling fees. A recent Food Marketing Institue study concludes that for retailers alone, the cost of handling returned containers in a mandatory deposit environment is 2.3 cents per container.

The GAO report fails to evaluate the total impact of costs attributable to deposit laws, yet they acknowledge that such costs exist. Among these are "increased sanitation services to control pests in vehicle and stroage areas, higher utility bills for water and fuel to heat the water to wash refillable bottles and higher bills for diesel fuel and gas.

HIGHER BEVERAGE PRICES

Although the GAO report acknowledges increased costs to retailers, wholesalers and others in the beverage distribution chain, it does not document the scope or the severity of the forced deposit's impact on consumer prices. This is a glaring omission of a fact well reported by the media and well documented by supermarket and beverage industry studies. Prices increase in deposit law states.

ENERGY CONSUMPTION

The GAO report's analysis of energy consumption in a forced deposit environment is not comprehensive. It does not measure or document increased energy usage due to inefficiency at the distribution level. Again this omission is glaring in that the report acknowledges that some distributors increase their fleet of trucks to accommodate empties and large refillable containers. The GAO report does not calculate this increased cost.

EFFECTS ON INDUSTRY AND LABOR

The GAO report gives the impression that a forced deposit on beverage containers would foster the interests of labor and the brewing industry. Yet labor organizations affiliated with the beverage industry are adamantly opposed to forced deposit laws. The AFL-CIO, the Teamsters, the Glass Bottle Blowers Association and the American Flint Glass Workers Union have all taken formal positions against deposits.

The GAO report makes many assumptions on industry's response to a forced deposit system, yet the report discredits itself by admitting that these assumptions are questionable at best.

A critical assumption underlying the GAO report relates to the quantity of cans, bottles and plastic containers and the impact of competition on these beverage packages. GAO acknowledges that their prediction on container mix was wrong in 1977. We have every reason to believe that it is wrong in 1980.

ECONOMIC ANALYSIS

The GAO report does not give a complete analysis of the economic impact of forced deposit legislation on the local and national levels. It does not examine the ripple effect of deposit legislation or how depressed beverage sales and increased costs to container manufacturers and other allied industries will effect other segments of the economy.

ALTERNATIVE SOLUTIONS TO LITTER AND SOLID WASTE

The GAO report does not examine or compare alternative solutions to litter and solid waste which are more effective, comprehensive and less costly.

Litter/recycling laws employ public education, enforcement and recycling to reduce all types of litter and waste—at no extra cost to the consuer or small business man. This progressive approach to litter and waste, now law in eight states, has reduced total statewide litter by as much as 66 percent.

Clean Community Systems (CCS)—Keep America Beautiful applies the techniques of behavorial science to waste management. CCS programs operate in 204 cities and counties in 35 states effecting litter reduction of up to 70 percent.

Private Enterprise Recycling Centers—Private enterprise recycling centers exist in every state in the nation. In addition to reducing litter and solid waste, these centers stimulate economic growth through new jobs and cash payments (not deposit refunds) to consumers.

1981 HISTORY OF LEGISLATIVE REJECTION[1] OF STATE MANDATORY DEPOSIT BILLS

Alabama: Deposit measure died with adjournment in the House State Administration Committee.

Alaska: No consideration of deposit legislation in 1981.

Arizona: No consideration of deposit legislation in 1981.

Arkansas: No consideration of deposit legislation in 1981.

Colorado: No consideration of deposit legislation in 1981.

District of Columbia: No consideration of deposit legislation in 1981.

Florida: No consideration of deposit legislation in 1981.

Georgia: No consideration of deposit legislation in 1981.

Hawaii: Deposit measure defeated in the Senate Ecology, Environment & Recreation Committee.

Idaho: No consideration of deposit legislation in 1981.

Illinois: Deposit measures either failed to be reported out of committee or were referred to sub-committee.

Indiana: Deposit measure died with adjournment in the House Environmental Affairs Committee.

Kansas: Deposit measure tabled by House Energy and Natural Resource Committee.

Louisiana: Deposit measure died in the House Commerce Committee upon adjournment; another measure died upon adjournment on the House Calendar.

Maryland: Deposit measure defeated in the Senate Economic Affairs Commimttee.

Minnesota: Deposit measure will carry over to 1982 session.

Mississippi: No consideration of forced-deposit legislation in 1981; however, a tax measure which would have placed a tax on manufacturers, distributors and sellers on non-carbonated beverage containers died in the House Ways & Means Committee.

Missouri: Deposit measure died in the House Commerce Committee upon adjournment.

Montana: No consideration of deposit legislation in 1981.

Nebraska: No consideration of deposit legislation in 1981.

Nevada: No consideration of deposit legislation in 1981.

New Hampshire: Deposit measure reported from the House Commerce & Consumer Affairs Committee as "inexpedient" to legislate.

New Mexico: Deposit measure tabled in the Senate Corporations Committee and another deposit bill was amended in the Senate Conservation Committee to become primarily an "anti-litter" bill.

New York: Main deposit measure held in the Assembly Commerce, Industry & Economic Committee; several other deposit bills were tabled. Deposit bills were tabled in the Senate Conservation Committee.

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[1] Also includes no consideration of deposit legislation in a state in 1981.

North Carolina: Deposit measure defeated in the House Small Business Committee.

North Dakota: Deposit measure reported out of the Senate Industry, Business & Labor Committee but then failed to pass on Senate Floor.

Ohio: No consideration of deposit legislation in 1981.

Oklahoma: Deposit measure not reported out of committee by deadline date—will carry over to 1982 session.

Rhode Island: Deposit measures not reported out of their respective committees by deadline date—will carry over to 1982 session.

South Carolina: Deposit measure not reported out of the House Agriculture & Natural Resources Committee—will carry over to 1982 session.

South Dakota: Deposit measure tabled in the House Commerce Committee.

Tennessee: Deposit measure deferred by the House Commerce Committee until 1982 session.

Texas: Deposit measure died in the Committee on Liquor Regulation upon adjournment.

Utah: No consideration of deposit legislation in 1981.

Virginia: No consideration of deposit legislation in 1981.

Washington: No consideration of deposit legislation in 1981.

West Virginia: Deposit measures were either tabled in committee or died upon adjournment.

Wyoming: Deposit measures died upon adjournment on the Senate File and in the House Corporations, Elections & Political Subdivisions Committee.

Statewide Votes Defeat Mandatory Beverage Container Deposit Ballot Measures

Mandatory deposit proposals which would place a minimum five cent deposit on all soft drink and beer containers including plastic, cans, and glass have been rejected in five consecutive statewide referenda since 1978 by overwhelming margins. Also since 1978, no state has passed and implemented a mandatory deposit law even though hundreds of bills were filed in a majority of state legislatures. In 1980 for example, 31 state legislatures considered—and rejected—mandatory deposit proposals. In 1981, 27 state legislatures followed suit. The trend in the past several years has been against forcing consumers to pay deposits and toward more comprehensive and cost-effective approaches to litter and solid waste.

NO APPROPRIATE FEDERAL ROLE

This beverage container issue is being addressed by state government and there is no need for a sweeping federal regulation when states are emphatically saying "no" to mandatory deposits.

A LOOK AT THE INITIATIVE RECORD

	Rejected by (percent)	Against	For
1980 Montana	71	248,928	100,761
1979 Washington	57	472,822	349,891
1979 Ohio	72	2,007,522	722,120
1978 Nebraska	57	280,522	211,732
1978 Alaska	60	74,590	49,727

Private enterprise recyclers, grocers, labor organizations, consumers and key elected officials joined to combat mandatory deposits because the measures in the six states where they are now being implemented: Significantly inflated the prices of soft drink and beer not including the deposit; cost skilled jobs; harmed private enterprise recycling; ignored the majority of litter and solid waste that has successfully been addressed by states in a more comprehensive and cost-effective way.

Status of Alternative Litter/Recycling Laws Prepared by the Glass Packaging Institute, August 1981

Nine states are presently implementing comprehensive litter/recycling laws. These laws generally include provisions for litter cleanup, litter law enforcement, recycling incentives and public awareness programs. In each state, the litter/recycling law serves as an efficient, cost-effective alternative to the disruptive, inflationary impacts of mandatory deposit laws, commonly called "bottle bills."

ALASKA—AN ACT RELATING TO THE REDUCTION OF LITTER AND THE RECOVERY OF MATERIALS AND ENERGY FROM LITTER

Effective July 1, 1980; sunset July 1, 1984.

Administered by the Department of Environmental Conservation, Division of Environmental Quality Management.

Funding: The state allocated $500,000 for fiscal 1980-81.

CALIFORNIA—SOLID WASTE MANAGEMENT ACT OF 1980

Effective July 9, 1980; sunset July 1, 1983.

Administered by the Solid Waste Management Board, Resource Conservation & Recovery Division.

Funding: Annual allocation is derived from the transfer of funds from the business inventories tax ($12 million in 1980).

Disbursement: 32.5 percent litter cleanup; 30 percent recycling grants; 27.5 percent resource recovery; 10 percent litter law awareness and enforcement.

LOUISIANA—AN ACT TO CREATE THE LOUISIANA LITTER CONTROL AND RECYCLING COMMISSION.

Effective Sept. 11, 1981; no sunset provision.

Administered by the Department of Transportation and Development, Louisiana Litter Control & Recycling Commission.

Funding: Annual budget derived, in part, from fines collected pursuant to the litter law. Other funding mechanisms to be considered.

NEBRASKA—NEBRASKA LITTER REDUCTION AND RECYCLING ACT

Effective October 1, 1979; sunset October 1, 1984.

Administered by the Department of Environmental Control.

Funding: Budget derived from an annual litter fee collected from businesses which manufacture, distribute or sell litter stream products within the state ($606,000 in fiscal 1981-82). The fee, equal to $150 for each $1 million in annual gross proceeds, is collected from businesses showing gross proceeds in excess of $350,000 annually.

Disbursement: 40 percent recycling and product separation; 40 percent education; 20 percent litter cleanup.

OHIO—AN ACT TO ESTABLISH A COMPREHENSIVE STATEWIDE LITTER CONTROL AND RECYCLING PROGRAM (WITH "PARTICULAR EMPHASIS ON RECYCLING")

Effective July 14, 1980; sunset June 30, 1986.

Administered by the Department of Natural Resources, Office of Litter Control.

Funding: Two-tier assessment derived from (1) corporate franchise taxes (maximum $5,000 annually) and (2) special assessment on corporations (maximum $5,000 annually) which manufacture and/or sell litter stream products within the state.

SOUTH CAROLINA—LITTER CONTROL ACT OF 1978

Effective May 5, 1978; no sunset provision.

Administered by the Department of Health & Environmental Control.

Funding: Budget derived from voluntary, tax-deductible grants and contributions from public and private sources. Budget can be supplemented by an annual appropriation from the state general fund.

TENNESSEE—SAFE GROWTH PLAN FOR THE 1980S

Effective May 7, 1981; no sunset provision.

Administered jointly by the Department of Conservation and the Department of Transportation.

Funding: Budget derived from a 50-cent, per-barrel increase in the privilege tax on beer and a 0.4-percent increase in the gross receipts business tax on soft drinks (tax increases become sunset June 30, 1984).

VIRGINIA—VIRGINIA LITTER CONTROL ACT

Effective July 1, 1976; no sunset provision.

Administered by the Department of Conservation & Economic Development, Division of Litter Control.

Funding: Budget derived from an excise tax on beer (based on container size) and soft drinks (based on gross receipts).

Supplemented by funds derived from a $10 annual assessment on businesses which manufacturer, distribute or sell products that contribute to litter. An additional $15 annual assessment is collected from businesses which manufacture, distribute or sell beer, soft drinks or groceries.

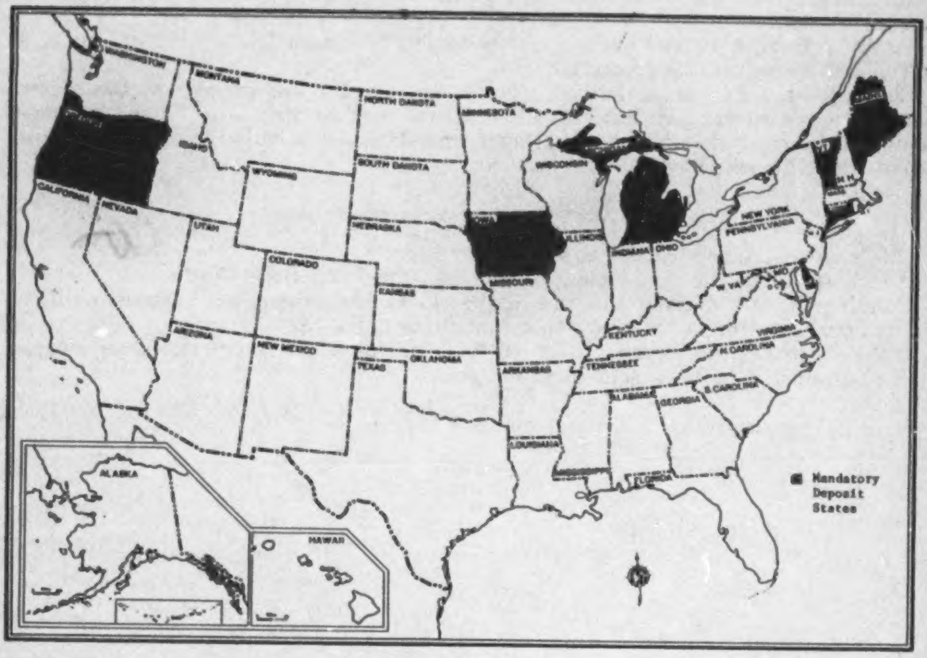
WASHINGTON—MODEL LITTER CONTROL ACT

Effective September 1, 1972; no sunset provision.

Administered by the Department of Ecology, Division of Solid Waste.

Funding: Budget derived from an annual litter assessment on businesses which manufacture and/or sell products that contribute to the litter stream.

Disbursement: 40 to 50 percent youth litter patrol; 20 to 30 percent litter awareness programs; 20 to 30 persent recycling grants.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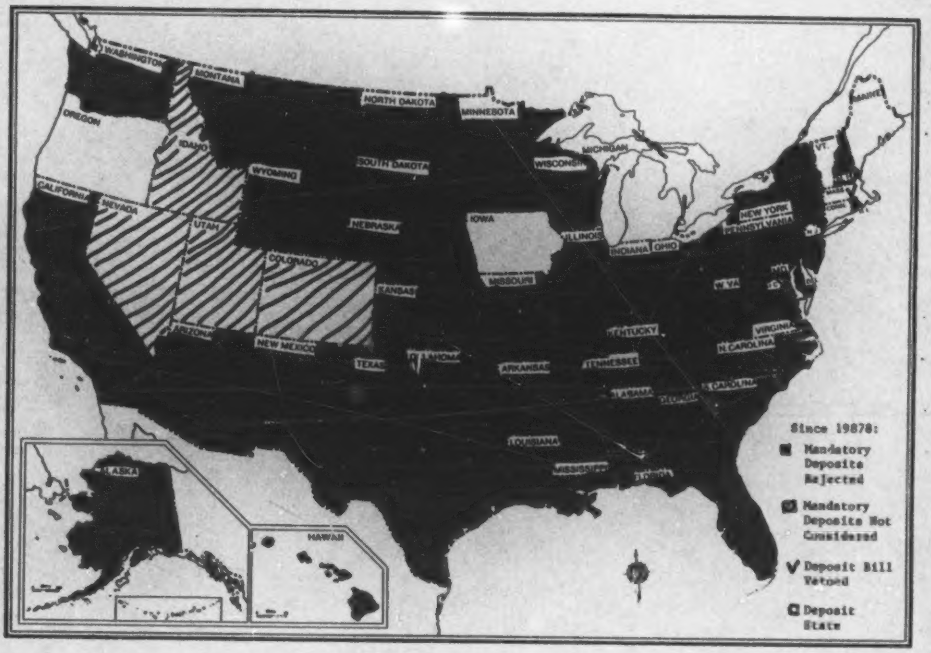
HAWAII
■ Mandatory Deposit States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MISSISSIPPI
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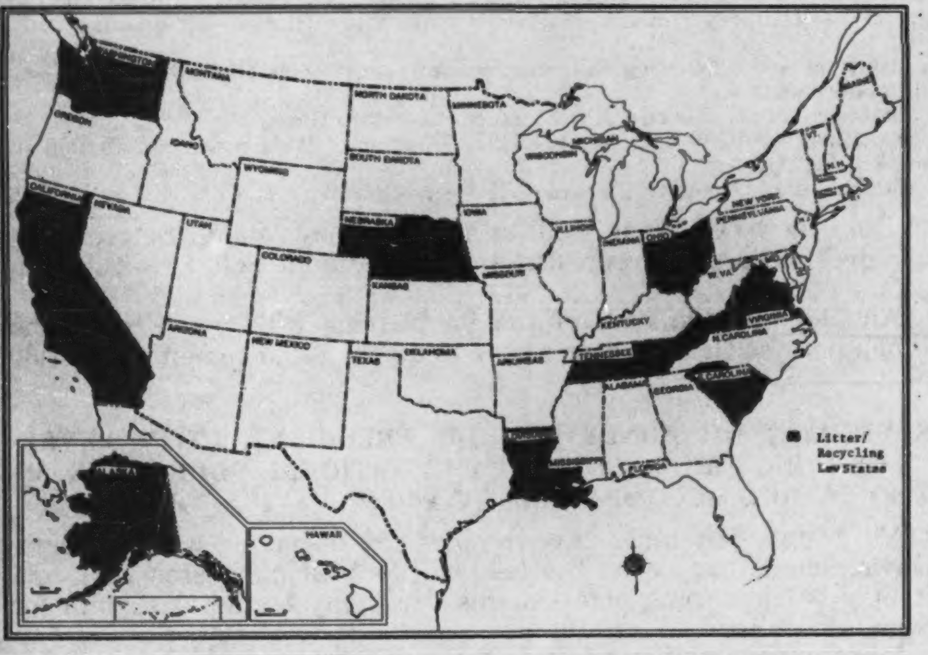
Since 19878:
■ Mandatory Deposits Rejected
▨ Mandatory Deposits Not Considered
✓ Deposit Bill Vetoed
▢ Deposit State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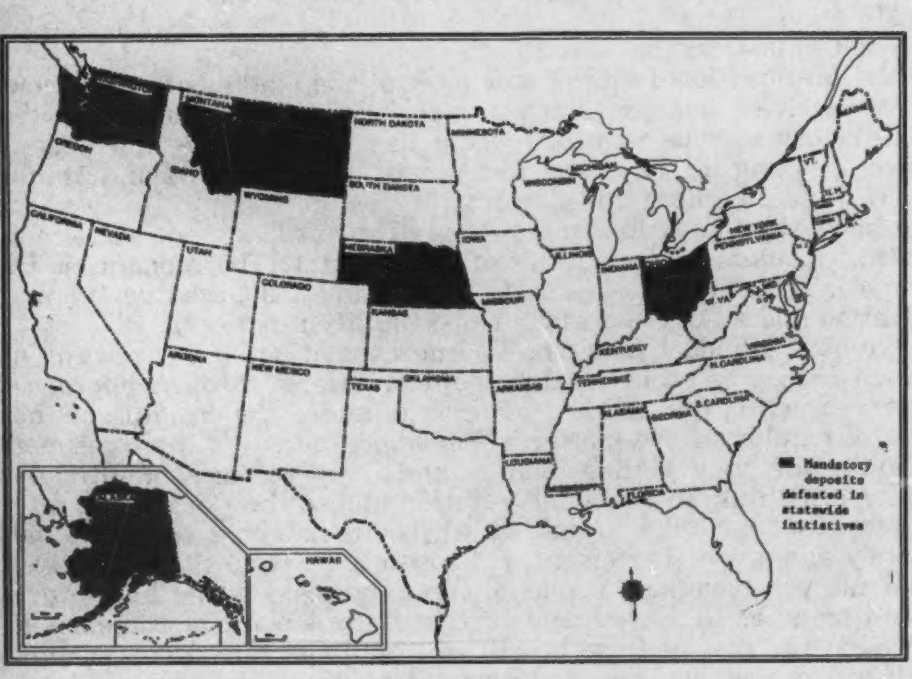
■ Mandatory
deposits
defeated in
statewide
initiatives

The following information is a resubmission of testimony made before the Subcommittee on Consumer, Committee on Commerce, Science and Transportation in 1978. The testimony remains valid and is applicable to the present hearings on S. 709.

Attached is the following testimony which is part of the Glass Packaging Institute's appendix.[1]

Statement of H. R. Looney, President, Northwestern Glass.

Statement of John A. Biggs, 1970–1977 Director of Washington State's Department of Ecology.

Statement of Professor Richard A. Posner, University of Chicago Law School.

The CHAIRMAN. Next, we'll take Mr. Sidney Mudd, the president of Joyce Beverages, representing the National Soft Drink Association.

And let me thank all of you for bearing with me through the lunch hour so that we didn't have to adjourn and come back at 1:30 or 2.

STATEMENT OF SIDNEY P. MUDD, PRESIDENT, JOYCE BEVERAGES, INC., REPRESENTING THE NATIONAL SOFT DRINK ASSOCIATION, ACCOMPANIED BY DREW DAVIS, COUNSEL

Mr. MUDD. Senator, I have the pleasure of having with me Drew Davis, who is counsel to the National Soft Drinks Association and it may be that some place in this testimony I might ask him for some assistance.

The CHAIRMAN. What's your first name, Mr. Davis?

Mr. DAVIS. Drew.

The CHAIRMAN. Thank you.

Mr. MUDD. I have a brief summary of the statement which you have received, Senator. I'm going to brief that further, if that's satisfactory to you, because I would like to spend the time that I have speaking directly to a cost-benefit analysis of what I think we're discussing here this morning.

I know that it's redundant, but may I say at least that we're in a critical moment in the history of this country. The economy is in trouble. The electorate has said, "fix it," and has elected an administration and a Congress whose responsibility it is to try.

We have a budget problem. We know that there are two ways in which money is spent in this country. One is through appropriations by Congress and the other falls under the heading of the cost of regulation. No matter which way it goes, it's the consumer who's going to pay these dollars and so it becomes of ultimate concern, I think, to the administration and to the Congress and to society that we take a look at where we're going to spend the money and see if there is truly a cost-benefit ratio that's positive.

While you have heard some of these figures, I would like to put them together in a way that brings us to a point of comparison between the cost and the benefit of a national forced deposit bill.

If we look at beverage container litter, there are some varying figures and percentages that are indicated in various studies in various states. I have done my best to find an average. I find that 18 percent of total litter being beverage container litter is probably the best average that I can present to you.

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[1] The attached material has already been printed, see Serial No. 95–102.

At no place do I know of a claim being made, even by the most zealous environmentalist, that a bottle bill will remove all beverage litter. I have again tried to look at the various suggested results and actual results and to find an average that I could work with to make this cost-benefit ratio. And whether everyone agrees with this is of little consequence to the study because the range of variance doesn't make that much difference.

I have used 66⅔ percent as the effective rate of removal of container litter from total litter. The simple mathematical conclusion is that if there's 18 percent of litter which is container litter and we remove two-thirds of it, that that amounts to 12 percent of the total litter that we thus remove.

The national cost of litter cleanup is again something that I don't think anybody can quantify with exactitude. But the best figure I could find is a total of approximately $500 million. That would include municipal as well as highway litter. So if we look at a reduction of 12 percent of the total litter stream and the total cost is $500 million, again, simple arithmetic tells us that the savings effected on national litter by this bill could be optimized at $60 million. That for litter.

Let me go now to solid waste. Again, looking for the best figures that would not be controversial, I have used a figure that come as close to EPA's as I could find, and that is that approximately 5 percent of the total municipal solid waste stream is composed of beverage containers.

Again, nobody claims, at least I've never heard anybody claim, that you can remove 100 percent of the beverage containers solid waste. The best figure I have been able to determine, again, is 60 percent. And if one chooses to argue with that, a slight variance isn't going to make that much difference in this study.

If there's 5 percent of solid waste that's container-oriented and we can remove 60 percent of that, that obviously is then 3 percent of the entire solid waste stream in a municipality.

There are, as the best I can find and again from EPA figures, 136 million tons of solid waste in the United States on an annual basis. And if this bill could remove that 3 percent that I think is the target, it would reduce that solid waste load in the Nation by 4 million tons.

You can't equate the removal of a ton of solid waste with the removal of the complete pick up and disposal cost. It does not work that way and I don't think that any department of sanitation will claim that it does.

EPA's figure for a ton of beverage container waste removed is $8 per ton savings because there is not a reduction to speak of in the pick-up cost. But in disposal, yes, and they've estimated $8 a ton. So that if we could with this bill save 4 million tons at $8 a ton, our total saving ascribable to solid waste reduction would be $32 million.

We are thus able to put together a $60 million saving on litter and a $32 million saving on solid waste.

I do not want to skip over energy and resource recovery, but I want to say, as other witnesses have said, that it becomes extremely difficult, even with the most zealous research, to quantify whether or not there is a true savings in energy through a bottle bill.

Now you've heard a good deal of testimony on this point, and I don't want to take the time to repeat it here, but I would have to say that my best judgment is that I cannot prove one way or another that there is any change in the energy under a bottle bill versus the present situation, particularly when you hear testimony such as Mr. Considine's, which says that we're already recycling 50 percent of the most important ingredient in solid waste, which is the aluminum content of the can manufacturers' product.

So we now can look at a total benefit of $92 million.

The CHAIRMAN. Mr. Mudd, I'm going to have to ask you to abbreviate and conclude.

Mr. MUDD. I shall do it.

The CHAIRMAN. Thank you.

Mr. MUDD. If you look at what I consider to be the best evidence of consumer cost increase, it will average, as you've heard reported, approximately a dollar a case, 25 cents a six-pack, or 4 and a fraction cents per container. There's no way that we can do what this bill forces us to do, there's no way that we can pay the retailer 2 cents per container for handling and not raise the price to the consumer.

The historic fact is that the price has gone up approximately a dollar a case. I won't take the time to go beyond that with proof, but we can certainly supply it for you.

With those containers going up 4 cents a piece, and having 100 billion containers—it's obvious, then, that the cost goes up $4 billion to the consumer. I'll quickly say that if you look at the deposit return rate and the loss in unredeemed deposits to the consumer, you will add another $1 billion.

There are indirect charges that are in the Posner-Landes study that was submitted with my testimony in 1978, which I ask you to look at again, which, rounded off with the Feldstein study at Harvard, says that there's a $2 billion indirect expense to consumers from a forced deposit law.

The CHAIRMAN. Mr. Mudd, I'm sorry. I've got to hold you to the time limit. We've got other witnesses and I've got to wrap this up by 1.

Mr. MUDD. All I want to conclude with, Senator, and I apologize for going too long, is that we're talking about a $7 billion cost nationally to the consumer to save $92 million. It comes out on a very bad ratio so far as I view it, of 76-to-1 negative against the consumer's pocketbook. And I feel that very strongly. We could talk more about employment and other things, but basically, it's cost-benefit. It may be a solution that solves part of the problem, but at such expense, I hold that it's untenable.

Thank you, sir.

The CHAIRMAN. The one thing I don't understand is why in terms of overall cost voluntary recycling is any cheaper than mandatory recycling caused by deposit legislation?

Mr. MUDD. Well, right off the top, there's 48 cents a case in S. 709 that has to be paid to the retailer. The only place that the manufacturer can recapture that is through his pricing to that retailer, who in turn passes it to the consumer. There is no forefeiture of deposit under a voluntary recycling program. The only expense at all to the consumer under a voluntary plan is the cost of his time and gasoline to take containers to a recycling center.

The CHAIRMAN. Which no one has ever quantified, to the best of my knowledge.

Mr. MUDD. No, sir, I don't know that there has been a quantification of that.

The CHAIRMAN. Hundreds of thousands or millions of consumers driving a mile or two or three to return 8, 10, 12, 15, 20 bottles or cans.

Mr. MUDD. I suppose that Mr. Weinberg or some professional viewer of statistics could quantify that, but I certainly am not capable of doing it. We could work on it, though.

The CHAIRMAN. My hunch is, even if you quantified it, there would be no way to know if it was right or wrong. There would be a very wide margin of error.

Mr. MUDD. There are imponderables and unproveables in this situation. But I think that even though there may be some statistical error or misjudgments on my part, and I'd be willing to look at anybody else's figures, when you start to deal with something that's as far out of whack as 76 to 1, you can stand a little correction and still make it obvious that we shouldn't go that way as a nation.

The CHAIRMAN. Mr. Mudd, thank you. Mr. Davis, we appreciate your coming.

Mr. MUDD. Thank you, Senator.

[The statement follows:]

STATEMENT OF SIDNEY P. MUDD, PRESIDENT, JOYCE BEVERAGES, INC.

Mr. Chairman and members of the Committee, my name is Sidney P. Mudd. I am President of Joyce Beverage Inc., New Rochelle, New York. I serve also as Chairman of the New York Industry-Labor Committee for Resource Recovery.

I am a past President of the National Soft Drink Association, Washington, D.C., and I appear before you today as a representative of the organization. NSDA is the national trade association of the soft drink manufacturing industry.

There are approximately 1,800 manufacturing plants in the soft drink industry, located in all of the fifty states. These plants employ approximately 100,000 persons and have annual payrolls in excess of $1 billion. The majority are classified as small businesses.

The Association's membership numbers approximately 1,500 manufactures of soft drinks, who produce over 95 percent of domestic soft drink gallanage. I have the responsibility today of presenting the opinion of our national Association's membership. We appriciate this opportunity to express these views, and we hope that our comments will contribute meaningfully to the deliberations of this Committee.

S. 709, the bill before the Committee today would impose a 5 cent deposit on all soft drink and malt beverage containers purchased in this country. The bill is intended to reduce littering, decrease the cost of solid waste disposal, and encourage the conservations and recovery of natural resources.

As we have stated to you and to this Committee on other occasions, Mr. Chairman, we strongly believe these are worthy goals and we share them. As an industry which employs resources and utilizes packaging which enters the solid waste stream, we are concerned with resource recovery. To the degree that our packaging is carelessly discarded, we are equally concerned with solutions to national litter. However, we believe that such solutions should be as cost-effective and efficient as possible. Herein lies our opposition to S. 709.

President Reagan has noted time and again since taking office that our nation has saddled itself with hundreds of regulatory programs and schemes. All of these have been well intentioned and aimed at improving our quality of life, but many have not been structured to accomplish their goals efficiently.

Instead, our regulatory programs have often had limited benefits and have dramatically increased industry's cost of doing business. These costs are passed on to consumers in the form of higher prices, thus sustaining the inflationary momentum which has plagued us for more than a decade. Such programs divert resources from investment needed to increase productivity, investment to enable industry to produce more for less and increase the standard of living of all Americans. Unless we invest and increase our productivity our economy will stagnate. The lessons of the past are eminently clear. When a nation spends more to produce less, its economy inevitably suffers, consumer prices inflate, and the standard of living can only decline.

In the last several years both Congress and successive Presidential Administrations have addressed themselves to the problems of inflation. Current objectives are clear to all: reduce spending, create capital and incentive for investment, and reform or rescind burdensome regulation of our industrial complex. We commend you, Mr. Chairman, for the personal leadership you have exhibited in this all important effort. We hope that your Committee will act consistently and reject S. 709 for what it clearly is, one more hobbling regulation, destined inevitably to inflate costs, while producing minimal benefits.

It is entirely appropriate for Congress to determine what national problems should be addressed and how much of society's resources should be used in solving them. However, it is Congress' responsibility to analyze accurately the costs of all proposed solutions and to provide the taxpayers with the most benefits at the least cost.

There is a budget for all government spending. You in Congress recognize the cost of government spending programs. We urge you also to recognize the cost of government regulatory programs. Although dollars spent to meet regulations may not appear directly in federal deficits, they are nonetheless spent and the costs are ultimately borne by the consumer. Congress should make certain that regulatory expenditures are necessary and cost effective, just as it assesses conventional budget expenditures.

Mr. Chairman, we believe that when S. 709 is viewed in this perspective, one can only conclude that it is a highly inappropriate solution to the problems it is intended to solve. It amounts to a massive hidden tax upon our society and will provide very limited benefits. It is hoped that the cost/benefit analysis which follows will clearly demonstrate why that is so.

COST/BENEFIT ANALYSIS OF S. 709

We recognize that estimates of benefits from the reduction of litter and solid waste cannot be made with absolute certitude. However, the experiences of deposit law states provide sufficient guidance for this Committee to measure those benefits versus the consumer costs of such a law.

With that understanding, let us examine S. 709's purposes, what it may achieve, and at what cost.

LITTER BENEFITS OF S. 709

Let us first address litter, the ugliness of which offends all of us. The beverage container content of litter varies by location and survey. These surveys seems to average out at approximately 18 percent.[1] Obviously, if all such container litter were removed, 82 percent of total litter would remain.

Not even the most avid proponents of deposit legislation claim complete removal of containers from litter would occur because of the law. Rather, these claims vary based on reported results in the few states currently under deposit law. The average of such claims is approximately 66⅔ percent. With the average container content of the litter placed at 18 percent and the average effective rate of removal at 66⅔, it simply follows that a national deposit law, at best, would effect a 12-percent reduction in total litter (two third of 18 percent).

How does this hoped-for 12-percent reduction translate in cost benefit to the nation? There is no positive date known to us which precisely quantifies total national litter costs. The best estimate that we have is approximately $500 million.[2] This includes all litter costs at state and municipal levels.

Even though it can be conclusively argued that a reduction of 12 percent of litter will not result in a 12-percent reduction in pickup costs, to avoid argument, let us assume that it will. A reduction of 12 percent thus gives us a savings of $60 million on the national litter cost (12 percent of $500 million). Holding that savings in mind, let us next turn to the matter of solid waste.

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[1] "Michigan Litter: Before," Institute for Applied Research, 1978.

[2] American Can Company research department, March, 1980.

SOLID WASTE BENEFIT OF S. 709

In addressing national solid waste, we must again disclaim knowledge of exact data. We can, however, work with best estimates, which are adequate to this analysis of approximate costs and benefits.

The beverage container content of municipal solid waste appears to average approximately 5 percent.[3] If total solid waste, which includes agriculture and mining waste, is used, its percentage of beverage container waste drops sharply. However, it seems more conducive to accuracy to use municipal solid waste as our base figure.

If a forced deposit law were imposed nationally, what reduction in municipal solid waste could be reasonably expected? The best estimate we can arrive at after consideration of return rates and consumer breakage is 60 percent of the beverage container content.

With the beverage container content of municipal solid waste averaged at 5 percent, a reduction of 60 percent of such content would effect a 3-percent reduction in the whole of municipal solid waste (60 percent of 5 percent).

It is significant to note that in 1979 the Resource Conservation Committee reported that a national deposit law would reduce national solid waste by less than 2 percent.[4] It seems, therefore, that a 3-percent figure in 1981 should be acceptable to all.

What, then, would be the savings in dollars for a 3-percent reduction in the nation's municipal solid waste stream? Again it can be conclusively argued that a reduction of 3-percent of the waste load does not produce a 3-percent reduction in the handling of solid waste. While there may be a direct-line relationship in disposal costs, this is not the case in pickup or collection costs.

The best estimate of the national savings per ton of beverage containers removed from the solid waste stream comes from the federal Environmental Protection Agency studies. The EPA estimate for this saving is $8 per ton.[5]

The EPA further estimates that the current national total of municipal solid waste is 136 million tons per annum.[6] As stated above, a forced deposit law will remove no more than 3 percent of municipal solid waste from the national total. That 3 percent equals approximately 4 million tons.

It follows then that the 3-percent, or 4 million ton, reduction of national solid waste, at a savings per ton of $8, would effect a total dollar savings of $32 million (4 million × $8).

It is now possible to estimate the approximate cost savings on litter and solid waste reduction from a national forced deposit law. The estimate for litter reduction is $60 million. The estimate for solid waste reduction is $32 million. Thus the total expected reduction would be $92 million as the national benefit of a deposit law.

RESOURCE CONSERVATION OF S. 709

The third stated goal of S. 709 is to conserve energy and natural resources. In this area, the anticipated benefits are more difficult to calculate. There may be some savings in energy and material used in manufacturing cans and bottles, although responsible economists (Posner, Landes)[7] question whether this would net any savings to the country. There would also be significant offsets to these gains in a number of forms.

Gasoline and oil use under a forced deposit sytem inevitably increases as soft drink and beer fleets make more trips to collect empty containers as well as deliver full poroduct. This is compounded by the increased use of bulky returnables which take up more space per vehicle than nonreturnable cans and bottles. For example, a trailer truck can transport 2,200 cases of cans versus 600–700 cases of refillable bottles. This increase in the use of gas and oil in trucks alone is estimated at 30 percent to 46 percent. In Michigan for example, it has been estimated that 4,380,000 additional gallons of gasoline were used in 1979 to deliver and return beverage containers.[8] We have not estimated the additional gasoline used by consumers in returning beverage containers to redeem deposits, but this cost should be considered as well.

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[3] "Resources and Environmental Profile Analysis of Nine Beverage Container Alternatives," U.S. Environmental Protection Agency, (530/SW 91C), 1974.

[4] "Choices for Conservation," Final Report of the Resources Conservation Committee, July, 1979.

[5] American Can Company Research Department, March, 1980.

[6] "Committee Findings and Staff Papers on National Beverage Container Deposits," Resources Conservation Committee, January, 1978.

[7] "The Economics of Federal Mandatory Legislation," Statement Submitted to Senate Commerce Committee by William Landes and Richard Posner, January 26, 1978.

[8] "Michigan Energy Study," Can Manufacturers Institute, September, 1979.

In addition, energy requirements will increase in the production process, as well as in the heating and cooling of the expanded plant and warehousing facilities which deposit legislation makes necessary. It is important to note that most of the energy offsets I have mentioned are in increased use of oil, while the energy which might be saved by S. 709 in ore processing and manufacturing, derives from coal and ntural gas—resources which are in relatively abundant domestic supply.

Further, it must be noted, Mr. Chairman, to the degree that such a regulation would increase refillable container usage, the process of sanitizing bottles for refilling requires four to seven times the water needed in packaging non-refillables. Some systems require as much as 3½ gallons of heated water per bottle. Recurrent water supply shortages in many parts of the country make such new demand undesirable, if not hazardous.

Finally, one must include the energy and materials consumed in manufacturing the new machinery and delivery trucks and the construction of new plants and warehouses required under the forced deposit system.

Mr. Chairman, we have no definitive figures to show the actual gains and losses in energy and materials which would result if S. 709 were enacted nor do we believe anyone has. However, when all factors are weighed, there is a serious question whether there are any savings in energy and materials under forced deposit legislation. This is underscored by the fact that the national voluntary aluminum can recycling rate is already at 35 percent[9] and growing daily, as is the voluntary recycling of glass and plastic.

SUMMARY OF BENEFITS OF S. 709

It is now possible to summarize the approximate quantifiable savings benefits of a national deposit law. The saving in litter collection is approximately $60 million. The saving in solid waste handling is approximately $32 million. The total estimated savings thus becomes the total of the two, or $92 million.

Next it is essential to approximate the cost of a national deposit law, in order to determine the cost/benefit comparison of such proposd legislation. Certainly such a measuring of good and bad effects upon the economy of the nation, and upon all of us as consumers in that economy, has at no time in our history been more important than it is today. The key question before this hearing is clear; is a national deposit law worth more than it costs, or does it cost more than it is worth? Let us turn to an analysis of costs.

CONSUMER COST OF S. 709

The best known approach to a determination of consumer costs is a comparison of soft drink and beer retail prices in "deposit law states," before and after the law took effect, with the corresponding retail prices in neighboring states without the law.

Such a comparison has been made on a continuing basis by independent monitors retained by the Can Manufactuers' Institute. Beyond this analysis, there have been other conclusions from individual states based on local pricing experience.

While the monitored retail price increase predictably vary by brand, package size and retail location, it is our best conservative judgment that the average increase in beverage pricing attributable to deposit legislation is 25 cents per six-pack, or $1 per case.[10] It is important to note that this increase is a net increase after consideration of the recapture of unredeemed deposits.

What, therefore, would be the direct cost to consumers if S. 709 were enacted into law? This is not difficult to answer. A 25-cent increase per six-pack means a little over 4 cents per container. For simplicity, call it 4 cents. There are approximately 100 billion soft drink and beer containers sold per year in the United States. Thus we can readily determine that the direct cost to consumers of a national deposit law would be a staggering $4 billion a year. (100 billion × 4 cents)

Mr. Chairman, if there be any questions concerning the reasons for retail price increases under a deposit law, the answer is clear. S. 709 mandates a handling charge of no less than 2 cents per container. This translates to 48 cents on a 24-container case. Handling a deposit system is said by some retailers to be more costly than that. The New York State Food Merchants Association commissioned an independent study of deposit handling costs for retail grocers. That study indicated handling costs were 3.32 cents per container, or 80 cents per case in New York State. These new costs must ultimately be paid by the consumers.

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[9] News Release, Alcoa, January 22, 1981.

[10] See the Glass Packaging Institute/Can Manufacturers Institute survey of April, 1979. American Can Company Research Department, March, 1980.

The retailers must bear other new costs, such as the added cost of inventory. In Connecticut, for example a case of 16 oz. nonrefillables carried no deposit for the retailer. When the deposit law went into effect, a 16 oz. refillable case carried a $4 deposit to the retailer, for bottles and wooden case. With a minimum deposit of only 5 cents per container on 100 billion containers one can begin to imagine the new amount of idle money tied up in deposits by this law and thus removed from the flow of useful capital to stimulate a troubled economy. The consumer must pay for this, since the consumer is the only source of dollars we have.

Industry, in turn, has its own added costs to bear under a deposit law. That must be obvious in view of new delivery costs, new manufacturing costs, new machinery, new plant and warehouse costs, new fuel and water costs. All with no increase in productivity, but rather a decrease in sales volume. Since our New York company operates in Connecticut as well, I can report to you that the deposit law in that state caused a 14 percent decline in sales. The contention that these sales are soon thereafter restored is fallacious. They are not. Neither have they been restored in Connecticut.

As with the retailer, an increase in costs to the manufactuer, meaning here the bottler or brewer, without an increase in productivity, brings a sure increase in price to the consumer and a further inflated economy.

Neither is this the end of it for the consumer under a deposit law. There is the onerous burden of cost in unredeemed deposits. For many consumers the storing of used beverage containers and their ultimate transport to a point of redemption is either impractical, undersirable or impossible. Their only alternative is a costly one: forfeit the deposit and suffer the loss. They must well ask the question, "Why soft drinks and beer? There are at least 7,000 other items in my supermarket without deposit requirements. How can this be sensible law?"

In this matter of unredeemed deposits, what is the probable cost to consumers of a national deposit law? The answer must again be an approximate one, but such will be adequate for present considerations. Based on personal experience in the seven states in which my company operates and my long experience with this subject, I can predict no higher than an 80-percent return of empties under a national deposit law. I am inclined to put it lower at 75 percent, but to minimize disagreement, let me use 80 percent.

Such a rate of return means, conversely, a rate of deposit forfeiture of 20 percent of all beverage containers. When applied to the 100 billion containers used annually in America, that percentage represents 20 billion containers on which the consumer's deposit will be lost. At 5 cents per container, to use the minumum desposit mandated by S. 709, this additional cost to the consumer is $1 billion.

There are several scholarly analyses of the "hidden" costs to consumers, above and beyond those of increased price and deposit forfeiture. These analyses measure the magnitude of time, inconvenience and transportation costs incurred in the storage and return of beverage containers. The Landes/Posner study, mentioned earlier in this testimony, puts those consumer costs at $1.86 to $2.4 billion. In another recent article Martin Feldstein of Harvard, in collaboration with his wife, Kathleen Feldlstein, estimated the "hidden" cost at 2.25 cents per container, in Massachusetts.[11] This would amount to $2.25 billion nationwide. A rounded average of the two studies' results puts the figure at approximately $2 billion.

It is now possible to summarize the cost side of the consumers' cost/benefit analysis.

Summary of consumer costs of S. 709

	Billion
Cost to consumer in increased price	$4
Cost to consumer in lost deposits	1
Cost to consumer in "hidden" expense	2
Total cost to consumer	7

Having arrived at this approximation of total consumer costs under S. 709, it is of final importance to compare them to the law's benefits approximated earlier in this testimony.

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[11] "Imposing a Penalty at Litterbug's Level," Martin and Kathleen Feldstein, The Boston Globe, September 1, 1981.

Cost/benefit analysis of S. 709

Benefit from reduced litter (million)	$60
Benefit from reduced solid waste (million)	32
Total benefit [1] (million)	92
Total cost to consumer of S. 709 (billion)	7
Total benefit to nation of S. 709 (million)	92

[1] Energy and resource use, as discussed earlier, is impossible to quantify. If there is a benefit under a deposit law, it is judged to be minimal.

COST/BENEFIT RATIO OF S. 709

$7 billion/$92 million—76/1.

In view of so unfavorable a ratio of cost to benefit, 76 to 1, S. 709 seems patently undesirable.

EMPLOYMENT UNDER S. 709

Let me comment briefly, Mr. Chairman, on the question of job under a deposit law. On this point, you will hear conflicting testimony. This conflict arises from the fact that no one really knows what will happen to packaging under a national deposit law or how many retailers, wholesalers or manufacturers will severely impacted financially or forced out of business. But one thing is certain, a forced deposit system will create significant distortion in the labor market. A simple illustration is the loss of a highly-skilled steel worker's or glass blower's job versus the creation of a bottle-sorting job for a teenager in a supermarket.

In simplest terms, to the degree that that the beverage container mix is shifted to returnable, refillable glass bottles under a national deposit law, to that degree will skilled jobs be lost in the steel, aluminum, glass and plastic industries of the nation, as well as among bottlers unable to afford the heavy conversion costs of such a shift.

To the degree that the container mix remains relatively the same, skilled manufacturing jobs will suffer less severely from decreased beverage sales (container sales) under the law and there will be a lesser increase in low-skilled bottle handling jobs at retail and wholesale.

When considering job loss or gain and job distortion, it is important to remember that the oft-repeated objective of the environmentalist support of a deposit bill is to reverse the entire packaging trend in the soft drink and beer industries and return all such packaging to the refillable bottle. Given success in that objective, the result on employment in this nation would be disastrous.

Certainly, Mr. Chairman, in this critical time for the economy of the nation, this Administration and this Congress would summarily reject so costly a program with so shallow a return, if they were directly administering it and spending government revenues to do so. Just as certainly, Mr. Chairman, must Congress reject such an inordinately expensive scheme, when the costs are not shown directly in federal appropriations, but are hidden in the private sector.

It is a fact always to be remembered that the finite resources of society are consumed just as surely in a regulatory program as in a spending program. The costs of both are borne in the end by the taxpayer. Out of his or her pocket comes every dollar that government or industry spends or causes to be spent. There is no other source.

While the soft drink industry strongly rejects deposit legislation as a solution, it will in no way fail to do its part in attacking the ugliness of litter and the disposal of solid waste, if alternative solutions, more positive in nature, can be agreed upon.

Certainly, such agreement ought to be possible. The question is one of priority. Do we as a nation yet want to clean up litter? Do we want to establish a national capability for resource recovery? It is well known to the Committee, I am confident, that nine states currently have some type of operating comprehensive litter and recycling law. These laws variously include public education programs, support for privately operated recycling centers, litter receptacle distribution, municipal incentive payments financed by tipping fees and increased enforcement of updated anti-littering ordinances.

Rather than detail here the degree to which each of these programs is succeeding, let me speak only of one as an example. The Clean Community System (CCS) developed by Keep America Beautiful is an alternative being used in more than 239 communities in 36 states. And the program is working well at modest cost. A 1977 study, which compared three CCS cities with three non-CCS cities, found that total litter was reduced in the CCS communities by 20 percent to 50 percent more. Such reduction is not even potentially possible under a costly deposit law aimed at a maximum of 18 percent of total litter.

The problems of litter and solid waste vary greatly from state to state. For the present and for that reason, the state is where the best solution lies. This Administration and this Congress are intent on returning to the states more decision making and responsibility for local government. To impose by federal law so arbitrary and costly a measure as S. 709 would be violative of all that the national government is striving to accomplish.

In conclusion, Mr. Chairman, we hope that this Committee will reject once and for all deposit legislation as a practical or affordable response to litter and solid waste. If the federal government is not disposed at present to deal positively with these problems in view of more pressing and vital ones to all of us, the several states are best qualified to work within their own boundaries to effect practical solutions.

If, to the contrary, the federal government wishes to create a positive plan to reduce and control litter and to accelerate the recovery of natural resources in this country, industry will join enthusiastically in that effort. In that regard, I can say emphatically that the soft drink industry, which I represent here today, will not be found wanting.

I thank you for the opportunity to appear at this hearing and offer you these thoughts in oposition to S. 709.

The **Chairman**. Let's take Mr. Ed Fielder and then we'll conclude with Ms. Sandy Nelson.

STATEMENT OF ED FIELDER, BEL AIR, MD.

Mr. **Fielder**. Senator, I want to thank you for the opportunity to speak here today. I'll make my comments brief. I realize that you already read my testimony.

Two previous speakers, Mr. Peterson from the AFL-CIO, and Mr. Mudd, who just spoke, talked that beverage containers made up only 13 or 15 or 18 percent of the total litter stream. I'd like to point out a couple of facts about this 13, 15, or 18 percent—I'll use their figures—of the litter stream, which cause me as a dairy farmer a great deal of adversity.

In the first place, steel cans biodegrade in a period of about 100 years. It takes aluminum cans 500 years. According to the best estimates of chemists, it will take 1 million years for a glass bottle to reduce itself to dust. This means that once these containers are thrown out on my farm, they're going to be there for every steward of the land for the next million years if they happen to be glass bottles. I daresay, in 1 million years, if we continue to throw containers out, you're not going to be able to get a plow in that field, let alone get close to the cornstalk to harvest it.

There's four basic costs that the throwaway containers bring to the farmer. The first is equipment damage. We use a lot of large machinery that has a lot of soft rubber tires on it. Some of these tires cost upward to $700, $800, $1,000. If it's a steel-belted radial for a large tractor, it could go as high as $2000.

A throwaway bottle will go right through these tires and ruin that tire because there's no way under the sun of patching a large tractor tire once it has a sizable hole in it. We also lose a lot of smaller implement tires in the range of $75 to $100 apiece.

The second thing is when you have a flat tire on a large tractor, it's not a little job where you can go out there with your lug wrench, pull it off, take it to the service station and be out of business for 15 or 20 minutes. You're tied up with calling a serviceman to come out with a truck, with a pump, with a jack, and God only knows what else, and you're down for 6 or 8 hours with that machine.

In the critical time of planting, when you have 2 or 3 weeks to get your crops in, of harvest, when you have a month to get your crops in, your downtime is worth $100 to $500 an hour. An hour. It doesn't take very many hours of a big tire being flat to cost you a lot of money.

The third thing is lost feed. We have a lot of fields close to the roadways and we have a lot of ground close to the road. We harvest alfalfa for silage. This silage is worth about $40 to $50 a ton after it's been harvested.

All you have to do is hear one glass bottle or one steel can or aluminum can go through that harvester and into the wagon and back to the woods that load of silage goes because you can't feed it to a cow once it's got glass in it. She can't tell whether that silage has glass in it or not and she's going to eat it.

So we lose feed.

The worst thing, the very worst thing that can happen is when you don't hear that bottle go through and you don't hear that can go through. Then the cow is going to eat it. The first thing it does is it goes inside of her stomach and it causes a little ulcer. And then if it's a big enough piece, it goes right through her stomach wall. It goes into her liver, into her heart, into her lungs. It causes blood poisoning. It causes septacemia. It causes peritonitis. And it causes death, a very slow and agonizing death.

The average cow right now, dairy cow, costs $1,500 to replace. But some good breeding animals right now are selling for $500,000. I'm talking about a half million dollars' loss from one good breeding animal to a throwaway container.

Along the edge of a lot of farms in Kentucky, and in the horse-farming areas, throwaway containers line the side. All that horse has to do is lay down on that and hit the right tendon and that horse will never race again, never race again. This has been documented time and time again at New Bolton Center, a large veterinary clinic in Chadsford, Pa., with the University of Pennsylvania.

So you can see that this costs a lot of money each year to farmers. There's 2.3 million farmers in the United States and an average loss of $1,000 per farmer. We're just talking about $1,000. I don't think that that's a very high figure after what I've just shown you. That's over $2 billion loss a year, economic loss to the American farmer.

I don't have to tell you what the farmer is suffering right now with corn at $2.48 and soy beans at under $6. He's suffering and he's suffering hard. And here, we're asking him to swallow another $2 billion worth of loss on these throwaway containers, something that we didn't have to contend with 15 or 20 years before the advent of these containers.

Last of all, I'd like to say that about 25 farm bureaus have endorsed this statewide, and I'd also like to enter in a position paper for the National Grange in favor of this.

Thank you very much.

The **Chairman**. Thank you. I'll put it in the record.

You make a very telling case. Thank you for waiting.

Mr. **Fielder**. Thank you.

[The statement follows:]

STATEMENT OF EDWARD FIELDER, BEL AIR, MD. DAIRY FARMER,

Senator Packwood and members of the committee, my name is Edward Fielder. I am a dairy farmer in Bel Air, Md., where our family milks 175 cows and farms over 700 acres. I have been active in seeking local or statewide deposit legislation for 3 years and I urge you to report favorably on S. 709.

Today you will hear conflicting reports on energy conservation, natural resource conservation, job creation, and solid waste reduction from proponents and opponents of this bill. But one irrefutable result of this law is a very large reduction in roadside litter. The 1977 GAO report estimated beverage container litter reduction of 90 percent if deposit law were implemented.[1]

I support S. 709 because of this reduction in roadside litter. Beverage container litter is approximately 35 percent by weight of all roadside litter and it is the most visible, most dangerous, and the least biodegradable. Steel cans last 100 years, aluminum cans 500 years, and glass can be expected to be found whole in the environment 1 million years from now.[2]

Beverage container litter has three costs. One is aesthetic blight. It is impossible to measure this cost in dollars and cents. A second cost is medical cost to individuals. Approximately 80 percent of all litter caused injuries in California in 1974 were from broken glass and pull tabs.[3] It is very difficult to quantify medical costs. The third cost is litter cleanup. Much more money could be spent than is presently spent in order to properly clean up litter, so these figures are again difficult to quantify.

The throwaway container is a relatively new problem for the American farmer. It showed up in our fields, in our feed, and in our animals' stomachs shortly after the containers showed up on the grocer's shelves. People returning home from work stop at the local watering hole for a cold beer or soda, drink it and throw it out the window. Young Americans out for a night on the town buy a case of beer, ice it down, and head out for a field party, leaving their bottles and cans along the road.

These empty containers cost farmers money in four ways: First, equipment damage. Second, downtime. Third, lost feed. Fourth, injuries to animals. This year on our farm we lost three implement tires at an average cost of $75 each and a large tractor tire worth $700. Each one of these tires took valuable time to repair. This time may cost upwards to $100 per hour in busy spring planting and fall harvest times. When chopping hay for silage we always have to haul at least one load of silage to the woods because of glass or metal being ground up into the feed. A ton of alfalfa silage is worth at least $40 and a load would be 3 to 5 tons. But the worst thing is when we don't hear the container going through the machine and the glass or cans are ground into the feed and ensiled for winter use. When a cow eats glass or metal it can cause hardware disease. When ingested these pieces of death dealing glass or cans cut into the stomach lining and cause ulcers. They may also work their way through the stomach lining and go into the heart, lungs, and liver. This causes internal bleeding, septicemia, peritonitis, and eventually death—an extremely drawn out and painful death. The average dairy cow today costs approximately $1,500 to replace. I would estimate that the average cost of throwaway containers to us is about $3000 per year. This includes lost animals, lost feed, machine repair, lost production time, and labor spent picking up littered fields.

There are 2.3 million farmers in the United States and at an average loss of $1,000 per farm per year this would be over $2 billion of economic loss to farmers per year.

Because of these high losses farmers throughout the United States support making throwaways illegal or putting a deposit on them; 25 of the State farm bureaus have policy statements which favor a deposit on throwaway containers, about 10 others ask that throwaways be made illegal, and still others favor only reusable or recyclable containers.

Wisconsin Farm Bureau states "We urge that beverage containers have a significant returnable deposit to reduce the cost of cleaning up roadsides and to reduce the losses incurred by farmers due to damaged equipment and livestock."

Arizona Farm Bureau states "an adequate deposit shall be required at time of purchase. . . "

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[1] General Accounting Office. "Potential Effects of a National Mandatory Deposit on Beverage Containers" Comptroller General of the United States, Washington, D.C., Dec. 7, 1977.

[2] State of Oregon Department of Environmental Quality. "Oregon's Bottle Bill—the 1979 report"

[3] General Accounting Office op. cit.

Kansas Farm Bureau states "We encourage the recycling and reuse of all beverage containers and therefore lend our support to legislation establishing a practical system of economic incentives for return of such beverage containers."

The National Grange has stated in a letter dated October 29, 1981, addressed to Senator Packwood that they "support legislation that would require a deposit on non-biodegradable beverage containers". They further state "S. 709 adopts a sound course of action . . . And the National Grange urges you and the members of this committee to take positive action on S. 709 . . . "

As a farmer and as a representative for the nation's agriculture I urge yo to report favorably on S. 709. Thank you for the opportunity to address you today.

I urge you to report favorably on S. 709.

Deposit law has been shown in many states' experience to reduce roadside litter by up to 90 percent.

Beverage container litter is the most dangerous, most visible, and least biodegradable component of litter. It causes injuries to people and animals.

The United States farmer is plagued by throwaway containers. He incurs costs from equipment repair, downtime, lost feed, and lost animals. This cost is estimated to be over $2 billion annually.

There is wideperead support for this legislation among farmers. Over half of all state farm bureaus, as well as the national grange, have policy favoring deposit laws.

As a farmer and as a representative of American agriculture I urge a favorable report on S. 709.

NATIONAL GRANGE
Washington, D.C., October 29, 1981.

Senator BOB PACKWOOD,
Chairman, Committee on Commerce, Science, and Transportation, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE: The National Grange welcomes this opportunity to testify in behalf of S. 709, the Beverage Container Reuse and Recycling Act. We request our comments to be included in the hearing record of November 5, 1981.

The National Grange is a general farm and rural community service organization, with over 450,000 members in 41 states. A deep respect and appreciation of our rural environment is at the heart of the tradition and history of the Grange. As farmers and ranchers, Grange members are close to the soil, and understand the importance of conscientious management and conservation of our natural resources.

Thus, Grange members are understandably upset by the irresponsible use and systematic waste so prevalent in modern society. The Beverage Container Reuse and Recycling Act addresses one of the most obvious, and easily rectifiable cases: that of nonreturnable beverage containers.

Over the years, the Grange has been consistent in asserting that individuals and groups at the local level are in the best position to define and address local problems, and many local and State Granges have actively worked to enact deposit legislation in their states. These efforts have paid off in seven states: Oregon, Connecticut, Iowa, Maine, Michigan, Vermont, and Delaware. But in other states, industry opposition and extensive, well-financed media campaigns have repeatedly defeated deposit legislation, despite widespread citizen support.

Grange members declared at last year's Annual Session of the National Grange that the littering and wasted energy associated with nonreturnable beverage containers transcends local and state boundaries. The delegates passed the following resolution:

DEPOSIT ON BEVERAGE CONTAINERS

Whereas, the disposal of non-returnable beverage containers is an ever-increasing problem and expense; and

Whereas, many of these containers are thrown along our roadways; and

Whereas, bottles can be washed and re-used at a fraction of the cost of new bottles; and

Whereas, both glass and aluminum containers can be recycled and made into new containers: Therefore, be it

Resolved, that the National Grange support legislation that would require a deposit on non-biodegradable beverage containers.

The Beverage Container Reuse and Recycling Act, S. 709, adopts a sound course of action to solve a difficult issue. The Grange concurs with the bill's sponsors that now is the time for a uniform national system for requiring a refund value on the sale of all beverage containers.

Local, county, and State Granges have expressed to their national leaders the concerns of rural Americans. The roadsides, picnic areas and parks of our states are strewn with throwaway beverage containers of metal, glass and plastic. Farmers and other citizens have suffered needless tire damage from these bottles and cans. Motorists throw the containers into the fields along roadsides, and the containers become mixed with the harvested crops, forcing farmers to discard loads of chopped forage.

Mr. Chairman, the National Grange urges you and the Members of this Committee to take positive action on S. 709, the Beverage Container Reuse and Recycling Act. We join with you in this effort to prevent the concerns of rural citizens from being discarded as carelessly as beverage containers now are.

Sincerely,

EDWARD ANDERSEN,
Master, National Grange.

The CHAIRMAN. Sandy Nelson, representing the National Clearinghouse for Deposit Laws.

STATEMENT OF SANDY NELSON, NATIONAL CLEARINGHOUSE FOR DEPOSIT LAWS, WASHINGTON, D.C.

Ms. NELSON. Thank you, Senator.

The CHAIRMAN. Pull that microphone right up so that everybody can hear you.

Ms. NELSON. Thank you, Senator. I appreciate the opportunity to testimony here today. My name is Sandra Nelson and I'm the coordinator for the National Clearinghouse for Deposit Legislation of Environmental Action. I have been coordinator for the national clearinghouse for almost 4 years and have worked with citizen groups around the country for those entire 4 years for deposit legislation.

I would like to try and summarize quickly because I know that you're running of out time. The points that I would like to make are primarily centered around why do Americans continue to want deposit bottles? This has been talked about a lot today, the question of whether they really want them. I think I can show you why.

Americans really believe when you ask them, are we a wasteful society, I have never run into an American yet that didn't look me straight into the eye and say, "we are." Most Americans look at a deposit law as an opportunity that they themselves can do something about a problem that they recognize and they feel in our society.

We want to talk about why, as all of the opponents that have come up here today have said, that voluntary recycling is the answer. Voluntary recycling—I'm going to give you an example right here in the Washington, D.C., area. We have BIRP center, a beverage industry recycling program center, out in Rockville, Md. Rockville, Md., is approximately 20 miles from the population center of Montgomery County. Most of the people live in Silver Spring and Bethesda.

As testimony was given by citizens groups out in Montgomery County, they said that we would have to have 280 cans, aluminum cans, in our car in order to go to the gas station and fill it up and break even on the gas for the trip to go to a recycling center. That's why most citizens are not going to overwhelmingly seek the answer of voluntary recycling continually in the years to come—because centralized recycling centers will not be the answer.

Americans see the results of deposit legislation. They see it in the litter. They see it in solid waste. More importantly, they see it in themselves. They contribute, and the 90- to 95-percent return rates that we have in deposit States shows that Americans participate in the system and they feel good about it. That's what comes across in all of the polls that you see in the deposit States. That's why you continue to have the kind of citizen fight in every State and why they will continue to be that way.

Mr. Owings, when he was up here, when he testified, he mentioned that there are 11 States that have—I call them forced litter taxes; he called them litter recycling laws. Of those 11 States that he mentioned, 2 have repealed those litter taxes, 1 has died by a sunset clause. In the State of California, which would obviously be the largest contribution into the population of those States, has absolutely zero funding this year for litter education and litter pickup under their Senate bill 650 program. California literally does not have a comprehensive law any longer.

And that is why we have on the ballot next year in 1982 citizens collecting signatures in the States of California, Arizona, where we have a BIRP program, in the State of Washington for the third time, and the State of Colorado for the second time.

When I asked the citizens group from the State of Washington why it was that they were going back to the ballot for the third time on the issue of deposit legislation in 11 years, they said because it wasn't a fair fight, because citizen legislation, when it goes to the ballot on this issue in State after State has been outspent by ratios of anywhere from 20 to 65 to 1.

Despite that kind of massive advertising spending that occurs with those kinds of finances, citizens do on a voluntary level, and they put in a lot of voluntary hours for up to 2 years to run that kind of a State-run initiative campaign. And despite that kind of money, we are continuing to win.

We had a win in Columbia, Mo., on Tuesday night, November 3, 1981. It was a fight that the citizens of Columbia had fought for for 5 years. They passed it on their ballot 5 years ago. They had been in the courts ever since then for three court cases clear to the Missouri supreme court. They won every one. And then they had the issue put back on the ballot as a repeal. And we won it Tuesday night.

I'd like to say to all the people who were up here today saying that deposit laws were losing their popularity and that the legislative fights have been done time and time again around the country, we're winning them with more votes every year and we will continue to win them because we feel strongly about this issue.

Thank you.

[The statement follows:]

STATEMENT OF SANDRA A. NELSON, LEGISLATIVE REPRESENTATIVE, ENVIRONMENTAL ACTION, AND COORDINATOR, NATIONAL CLEARINGHOUSE FOR DEPOSIT LEGISLATION

Good afternoon, Senator Packwood and members of the committee. My name is Sandra A. Nelson and I am a legislative representative of Environmental Action, Inc. I have been for nearly four years the coordinator of an EA project, the national clearinghouse for deposit legislation, and I have worked with the "return to returnables" network of the National Wildlife Federation. I have personally traveled and worked with citizen coalitions on deposit legislation in many States; these groups have represented all walks of life—conservationists, consumer activists, farmers, hunters, youth groups, senior citizens, and even labor unions. We have all worked for the passage of deposit legislation for many long years because all of these groups have repeatedly chosen this issue for the singular importance of ending the "throwaway" ethic in our society.

It is a battle we will not put aside. The opponents of this legislation have tried repeatedly in the past year to claim that the issue is dead, popularity diminishes, legislative and referenda campaigns are defeated and that the general public would prefer other alternatives.

Those claims are false. To the contrary, the American people want this law. Public opinion polls have repeatedly demonstrated that all Americans have expressed a willingness to make the sacrifice of convenience—and the very specific documentation of that is at the ballot box. When Maine voters were asked if they wanted to repeal their law, a resounding 84 percent of the voters rejected that repeal—how often does any issue receive 84 percent support? The polls in deposit States, without exception show overwhelming popular support for those laws. But the seven States are history, good solid history, now. Let's examine the opposition claims of repeated legislative and initiative failures.

The claims of repeated introduction of State legislation are surely true, and they will continue, for each year the support grows. In 1981, the State legislature in Delaware removed the "Contiguous States Amendment" which had bound their implementation to passage in two neighboring States, and thereby set their date of implementation. But, 1981 also saw the passage of the law in the Massachusetts legislature for the second time. Each year in Massachusetts the vote tallies in the legislature have continued to grow, until today those tallies stand within a few votes of executive override in both houses. Recent public opinion polls in Massachusetts demonstrated over 70 percent support for a deposit law (in two polls)—the legislators have been listening to the increasing support for the law each year; it seems rather obvious that Governor King, by his second veto, has chosen to ignore the public support.

The New Hampshire legislature, which has 400 representatives in its lower house, defeated the issue by only 8 votes. The New York State assembly had more cosponsors of the legislation than was needed for a majority vote on the floor; the legislation was held in committee and will be considered in the upcoming spring legislative session. There were also intense legislative battles in Maryland, Wisconsin, New Mexico, Kansas—the list goes on . . . but each year we find our State legislators are "lobbied" effectively by special interests of the beverage industry; each year the citizen groups retrench, study the issues and problems, identify new sources of support and come back again for the fight. In Maryland this year, the coalition has begun to do house by house neighborhood canvasses—requesting voters to sign their name on the dotted line for the law. The results have been astonishing: averages of over 350 in favor for every 400 households polled.

Our voices of popular support will grow louder and louder.

Citizen groups have also worked long hard hours—sometimes involving a two year commitment—to insure a place for this question on their ballots. Yet, year after year, referenda campaigns have seen the opposition perform with massive financial budgets and total misrepresentations of the facts.

In Ohio's 1979 election campaign, the citizen group worked for 2 years, collecting signatures twice as prescribed under their State constitution, with a legislative battle in between the signature gathering, and then hoped their message would be heard. During that entire 2 year period, these proponents of deposit legislation spent $70,000. The opponents, on the other hand, spent nearly $2 million in the last 4 months before the election. The pattern has been repeated: Nebraska, 1978, the citizens' side spent $12,000, the opponents, $325,000; Alaska, 1978, citizens' $35,000, the opponents, $350,000; Washington State, 1979, citizens' $60,000, the opponents, $1 million. Sounds like David and Goliath doesn't it?

Well, despite those massive outspending ratios, our "David" can still win! On election night, 1981, 2 days ago, the citizens of Columbia, Missouri, overcame a 22 to 1 spending ratio and won a 5-year fight. Five years ago the voters had approved this legislation and for 5 years they have fought court cases brought by the opposition, winning each appeal. The opposition offered "voluntary recycling" in abundance . . . the city now has six separate recycling programs. But the voters of Columbia, Missouri, the "show me" State, didn't like the "show me" of the most massive spending campaign Columbia had ever seen.

And what are the issues these election campaigns are fought over? Not the facts. Ohioans were warned not to "import the diseases of Michiganders" (alluding to, of course, the hordes of vermin running loose in Michigan since their deposit law was enacted!) Ohioans were warned that because the wording of the law on the ballot—a standard uniform deposit on beverage containers requiring refund—did not include the word "recycling", that therefore no recycling would occur under the law. That advertisement appeared 4 times an evening per TV channel for 2 weeks—at a time when industry by their own admission in Michigan were recycling 2 million pounds of aluminum and steel per month as a direct result of the law!

But the citizen support for this law remains strong and dedicated. Washington State citizens have announced they will return to the ballot in 1982 (for the thrid time on this issue!) "Because they have not yet had a fair fight!" In 1982, they will be joined by citizen groups in Arizona, California, and Colorado (2d time) which are already collecting signatures and raising funds.

But each everyone of these citizen efforts, past and present, are indicative of the cross-section of Americans who want this law. State fights have been hard, costly and frustrating—and State by State implementation comes not without border problems. We are glad "our" law has finally come before the Congress. The time has come for a national law. We ask and beseech of you, our national representatives, to enact this bill, not only because of all the benefits we have sought, but because Americans in six States have shown they will bear the costs gladly—the popularity of the laws shows that—and Americans across the country are saying "we too want a new beginning! A beginning that rejects waste, and we are willing to do our share in a new era of wise and thoughtful use—and reuse—of our Nation's resources."

For citizen groups across the Nation, I request a favorable vote on S. 709.

The CHAIRMAN. Sandy, thank you very much. And again, thank you to all of you for being very patient through these 4 hours this morning.

That will conclude the hearings on this bill.

[Whereupon, at 1:05 p.m., the hearing was concluded.]

ADDITIONAL ARTICLES, LETTERS, AND STATEMENTS

STATEMENT OF THE AIR TRANSPORT ASSOCIATION OF AMERICA

The Air Transport Association of America (ATA), on behalf of its members,[1] the principal United States scheduled air carriers, appreciate this opportunity to submit its views on S. 709, the "Beverage Container Reuse and Recycling Act". In its present form, the air carriers strongly oppose S. 709. Their opposition to S. 709 is based upon the unique nature of the commercial air transport industry, and certain sound economic and practical reasons arising from that situation

While the air carriers do not oppose the goals and objectives of S. 709, the unusually harsh economic and practical burdens placed upon the commercial air transport industry as a consequence of adoption of S. 709 requires that they be exempted from the bill. Indeed, it is because of the very obvious unique nature of the commercial air transport industry that states with legislation similar to S. 709 have properly exempted air carriers from their like legislation.

S. 709 will require airline employees to separate refundable beverage containers from other similar items, and to store them for considerable periods of time on an aircraft. Further, in many cases the actual separation of refundable beverage containers would have to be performed on board the aircraft. One medium size air carrier member of ATA estimates its annual sorting and processing costs alone at $160,000.

Airline employee union contracts may not currently permit in-flight personnel to perform the sorting function required to recover the refund prescribed in the bill. Thus, the bill could require significant revisions to those contracts, or the employment of additional personnel otherwise unnecessary. The latter situation would be particularly acute for the air carriers in today's economic environment.

In order to recover the refund prescribed in the bill, each air carrier will be required to establish a designated facility at the various airports it serves for storage and subsequent pick-up of refundable beverage containers. In many instances, airport facilities are already overcrowded, and the requirement to maintain a separate refundable beverage container storage area for each air carrier will clearly exacerbate that situation.

Without performance of the sorting and storage functions by their personnel, the air carriers would be deprived totally of the opportunity to recover refunds. Those lost refunds would be substantial. For example, if just three ATA member air carriers were unable to employ personnel required for the sorting, storing, and returning of refundable beverage containers, their annual non-recoverable loss would exceed $1 million per year.

Notwithstanding the very obvious harsh economic consequences of the bill on air carriers, S. 709 also fails to address certain unique punitive practical burdens placed upon the commercial air transport industry. For example, air carriers engaging in international air transportation will have to haul empty refundable beverage containers back to the United States in order to recover refunds. The otherwise unnecessary carriage of such empty refundable beverage containers would not only increase the amount of fuel consumed, and thus impose upon the air carriers' additional unrecoverable costs, but would be counterproductive to the airlines' highly successful fuel conservation programs.

Whether an air carrier is engaged in domestic or international air transportation, it may be required, as a practical matter, to consider purchasing and selling national beverages only. Otherwise, an air carrier would have to transfer to a returning aircraft the empty refundable beverage containers reflecting a regional brand, or continue to transport such empty containers on board the aircraft until such time as it returned to a locale where an appropriate regional brand distributor or retailer was available. In the former situation, a Herculean effort would be required of the air carriers, and the practical difficulties associated with the latter situation make it virtually impossible to accomplish.

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[1] The following air carriers are members of ATA: Air California, Air Canada, Air Florida, Alaska Airlines, Inc., Aloha Airlines, Inc., American Airlines, Inc., Braniff International, Capitol International Airways, Inc., Continental Airlines, Inc., CP Air, Delta Air Lines, Inc., Eastern Air Lines, Inc., Evergreen Int'l. Airlines, Inc., The Flying Tiger Line, Inc., Frontier Airlines, Inc., Hawaiian Airlines, Inc., Midway Airlines, Inc., Muse Air Corporation, Northwest Airlines, Inc., Ozark Air Lines, Inc., Pan American World Airways, Inc., Piedmont Airlines, PSA-Pacific Southwest Airlines, Republic Airlines, Inc., Texas International Airlines, Inc, Trans Carib Air, Inc., Trans World Airlines, Inc., United Airlines, Inc., USAir, Inc., Western Airlines, Inc., Wien Air Alaska, Inc.

For the above sound economic and practical reasons, ATA recommends that Section 4 of S. 709 be amended to read as follows: "No distributor or retailer may sell or offer for sale, except to a common carrier by air for use in passenger service, a beverage in a beverage container. . . ."

The aforsaid exemption would not only alleviate the very obvious economic and practical burdens presently imposed by the bill, but would in no manner interfere with the bills' goals and objectives. Accordingly, ATA, on behalf of its members, strongly urges that S. 709 be amended to exempt air carriers.

Statement of G. Richard Schreiber, President, National Automatic Merchandising Association

My name is G. Richard Schreiber and I am president of the National Automatic Merchandising Association, headquartered at 7 South Dearborn Street, Chicago, Illinois. NAMA is the national association of the vending/contract foodservice management industry. On behalf of the more than 6,000 companies engaged in that industry, I would like to express my appreciation to the chairman and members of the Committee on Commerce, Science and Transportation for the opportunity to present our views on the issue of federal legislation for beverage container deposits.

NAMA is seriously concerned about the impact of beverage container deposit laws and the prohibition against the use of non-returnable beverage containers on its many members who vend soft drinks.

DESCRIPTION OF THE INDUSTRY

Essentially, a vending/foodservice company installs and services vending machines in industrial plants, offices, hospitals, schools and at public facilities such as gasoline service stations, restaurants and recreational areas through which it sells a variety of food and beverage products. Among the products a vending company sells are carbonated soft drinks.

HOW DEPOSIT LAWS AFFECT VENDING SALES

Requiring a deposit on beverage containers discriminates against the sales of carbonated beverages through vending machines. Since, by definition, vending machines sell merchandise "automatically" and are not attended, the vending company cannot collect a deposit from the purchaser unless it raises the price of the product by the amount of the required deposit. However, when the customer returns the container for his entitled refund, the vending machine cannot physically make the refund. The only place at which the vending company can return a deposit to the purchaser is at its headquarters, which in many instances could be from five to forty miles away from the place of purchase.

Consequently, and deposit requirement acts as a ban on the use of containers requiring such deposit in the sale of carbonated beverages through vending machines. In states such as Connecticut, Iowa, Maine, Michigan, Oregon and Vermont, which have enacted laws requiring a deposit on beverage containers, the sale of canned beverages through vending machines has been eliminated. This has led to immediate customer complaints at locations where sales volume would not justify the use of alternative methods such as the sale of beverages by cup vending machines.

Deposit laws therefore result in substantial declines in the sales of carbonated beverages through vending machines with resulting inconvenience to the customer because vending is often the only practical method to provide such service.

For example, only vending machines make soft drinks available at service stations, recreational areas and other similar sites.

The problem of requiring a deposit on beverage containers sold through vending machines is recognized in the "Environmental Protection Agency's guidelines for Beverage Containers." These guidelines apply to all beverage sales on federal property in the United States, effective September 21, 1977. The guidelines state:

"(d) *Non-implementation for federal facilities.*

"The following conditions are considered to be valid reasons for not using returnable beverage containers. (Those requiring a 5¢ deposit).

"(ii) Situations in which no viable alternative can be found which avoids excessive, irrecoverable costs of the facility or the agency. These conditions may prevail at either part or all of this facility. It is expected that facilities will use returnable beverage containers in those portions of their beverage distribution systems where it is effective to do so. *However, it is recognized and in some situations, such as for unattended vending machines where it is impractical to establish refund locations, or in small remote outlets where the majority of consumers are transient, it may not be possible to use returnable containers effectively.* The provisions for non-implementation can be applied to those portions of a facility."

INDUSTRY ECONOMICS

In 1980 the annual vending machine sales of carbonated beverages in cans in the 50 states was $2,742,000,000. This represented 7,140,000,000 unit sales. It is estimated that these sales were made through 750,000 can vending machines located throughout the United States. A great majority of such equipment operated by vending companies is located in motels, offices, factories and similar locations where the beverage is consumed immediately and the container disposed of at the location.

Since most canned soft drink sales through vending machines would be lost under a deposit requirement, most of the vending machines involved become useless. The 750,000 machines represent an original investment of approximately $1,425,000,000.

A small portion of these can vending machines can be converted to sell beverages in returnable bottles, but the conversion costs are as high as $300 per machine where conversion is possible. Note, however, that vending companies do not operate machines vending beverages in reusable bottles. Generally, they are not bottlers of beverages.

LITTER CONTROL NOT AN ISSUE

Most can vending machines operated by vending companies are located in factories, business offices, hospitals and similar locations. Sales at such locations do not lead to litter since the disposal of cans becomes part of the ordinary waste disposed of daily by the location where the sales take place. The requirements of a deposit on such beverage containers under such circumstances is difficult to justify on the basis of litter control.

PUBLIC HEALTH CONSIDERATIONS

The salutary effect of the use of single service containers has long been recognized by public health authorities. The return of used beverage containers, whether reusable or not, containing a residue of highly sweetened liquid attracts vermin with attendant public health problems. In addition, any prohibition against the use of self-opening containers also raises public health problems. The use of can openers at the point of purchase on can beverage sales through vending machines was discontinued many years ago due to the unsanitary conditions that were created.

GUIDELINES OR MANDATORY LEGISLATION

It is respectfully submitted that the Congress should limit its legislative prerogatives to the establishment of guidelines for use by the states and local communities in developing litter control programs. Litter is a general problem not limited to beverage containers but includes all kinds of consumer packaging. Therefore, we suggest that any recommendations made by the Committee should cover the entire gamut of consumer packaging and not be limited to packaging in the beverage industry.

CONCLUSION

The vending industry joins with all concerned citizens in their desire to clean up the environment. However, the industry is acutely aware that proposals to help meet this goal must be carefully weighed as to cost to the community, not only in terms of money, but in terms of other counterveiling desires. The economic loss which results from deposit laws on beverage containers on the vending industry cannot be borne by it alone. The industry would have to recoup these losses by passing them on in the form of higher prices. This loss in the long run, would be paid for by hundreds of thousands of factory workers and others throughout the country who rely on vending for their food and beverage needs daily.

It has been proved highly impractical to apply a returnable beverage container system to vending machine sales. Therefore should the Committee recommend a deposit solution, we ask that it consider an exemption for vended sales because of the special nature of that method of ratailing which makes it impossible to comply with deposit requirements. Such an exemption would also recognize the fact that vending sales by vending companies take place at locations which do not add to litter problems.

Statement of Maudine R. Cooper, Deputy Director, Washington Bureau, National Urban League, Inc.

Mr. Chairman, I am Maudine R. Cooper, Deputy Director of the Washington Bureau, National Urban League, Inc. We welcome this opportunity to respond to your invitation to give our views on the Beverage Container Reuse and Recycling Act.

As you know, the National Urban League's historic role in equal employment opportunity makes its uniquely qualified to provide a perspective too often ignored by others in these hearings. The League is a non-profit, charitable and educational social service organization founded in 1910 to secure equal opportunities for Black Americans. Its scope has been expanded to include all minority groups, and poor and disadvantaged Americans. Through its network of 109 affiliates, the League's major thrust continues to be on behalf of Black people in the nation's cities.

The League is committed to enhancing employment opportunities for minorities and the disadvantaged and to educating that portion of the population to existing opportunities.

The National Urban League regards passage of mandatory deposit legislation on soft drink and beer bottlers and cans as an important component of our national energy plan. It is compatible with our recently stated position on energy policy and which identifies three pillars of national energy policy: (1) sound conservation policies; (2) development of renewable energy resources and alternate energy technologies; (3) shielding the poor from negative fallout effects of energy decisions.

Furthermore, these three pillars must support the structure of continued economic growth with emphasis on including the poor and minorities in that growth. We feel that national deposit legislation is consistent with the goals of a sound energy program.

In its current form, the bill fosters conservation, encourages re-use and recycling, and most importantly, promotes employment in sectors of the economy suitable for minority opportunities. For the above reasons the National Urban League is in support of mandatory deposit legislation.

Todays testimony presents to this Committee nothing new. What we do hope to point out is that those who would oppose such legislation have, along with some of the American public, gotten used to our past throw away practices. But like much of what has been said, the nationally identified problems which flow from legislative avoidance of the issue are far superior to those of the affected industries: solid waste reduction, litter reduction, and energy use reduction.

Numerous studies have been done, the most notable of which are the Vermont and Oregon studies. Additionally, the New York State Senate Task Force Study also came up with some interesting findings, the most significant are the following:

> 80 to 90 percent of beer and soft drink sales in refillable bottles, as compared to about 10 percent today, without adversely affecting sales or prices;
>
> provision of an additional 5,200 jobs in the state with an increased payroll of about $35 million annually;
>
> some small independent soft drink canners might be forced to close and worker dislocation could affect 1,200 workers;
>
> two-thirds reduction in beverage container litter;
>
> $70 million in capital investments by industry; and
>
> $40 million in consumer savings, plus savings in trash collections, litter clean-up, and energy reductions.

It is important to note the New York State Senate study findings, since many opponents of the bottling legislation point to the differences in Vermont and Oregon when compared to the more urban metropolitan centers.

Nevertheless, consumers use about three times as many beverage containers as we did a year ago.

Environmental groups have banded together in support of this legislation. They have been careful to point out that there are a number of benefits which are to be expected from a national deposit law: (1) Forty-four percent energy savings in the beverage industry (equivalent to 81,000 barrels of oil per day); (2) net increase of 115,000 new jobs; (3) seven percent reduction in municipal solid waste; (4) $1.8

billion to $2.6 billion in consumer savings; and (5) 40 to 50 percent reduction in roadside litter.

Within the past few days debates over the statistics have been rampant. Yet, the bottom line of all of the information which has been available for the League's analysis has indicated a net increase in jobs. Employment has been and continues to be the League's primary concern. We recognize that many of the jobs to be created would be suitable for the unskilled hard core unemployed. Additionally, a national bottle bill may compel affected industries to move back into urban centers in order to reduce the high costs of pick-up and delivery.

As a final note, as States begin to develop different "bottle bills" the confusion and conflicting requirements will certainly not make the task of industry compliance an easy one. It would therefore seem to be in the best interests of those expected to be affected by such legislation to work with groups such as ours, as well as congressional representation, to try to fashion legislation which at a minimum meets the three requirements laid out earlier.

As an organization representing poor and minority persons, we see the above three points as critical to inner city residents. One need only drive through the poorer sections of any city in order to obtain visual evidence of a need for litter reduction. One need only talk to sanitation department directors to get a sense of the critical need for more and larger landfills, increased sanitation department staff, heavier equipment, etc.

The burdens of this legislation will be greater for some than for others. But for those adversely affected, additional provisions should be added to provide business assistance through the Small Business Administration.

STATEMENT OF THE NATIONAL ASSOCIATION OF CHAIN DRUG STORES, INC.

The National Association of Chain Drug Stores, Inc. (NACDS) respectfully submits the following written testimony concerning legislation (S. 709) entitled, "The Beverage Container Reuse and Recycling Act."

For the subcommittee's background, NACDS is a trade organization representing 192 corporations that operate in excess of 12,000 drug stores and 1,500 leased pharmacy departments throughout the United States. Total industry sales topped $17 billion in 1980. Of this amount, liquor and wine generated $549,279,000 in sales, soft drinks accounted for $166,214,000 and beer contributed $76,546,000 during 1980. Overall, sales of beverage products are growing at a rate of better than 16 percent annually.

LIMITED APPROACH

Concerning the specifics of the legislation which would mandate a national beverage container deposit law in order to combat litter while promoting recycling, NACDS belives that such an objective is very commendable. Unfortunately, this proposal is a piecemeal approach that would only address about 25 percent of the Nation's total litter problem and 5 percent of the country's solid waste situation.

Secondly, from an economic view point, the proposal would result in higher costs for beverage products that would have to be absorbed by consumers. In addition to manufacturers' costs that would result as bottlers convert to refillable systems, there would be Chain Drug retailer costs associated with handling returns plus the need to require a 5-cent deposit on each container from customers.

In that a majority of the NACDS membership are small drug chains with less than 25 stores who can be categorized as operating conventional size units of 12,000 square feet or bantam size stores of less than 7,000 square feet, the legislation would mean lost selling space on the floor and could necessitate the hiring of additional personnel to handle container returns.

HEALTH CARE CONCERNS

More importantly, a nationwide mandatory bottle deposit law could trigger major health hazard problems which concerns our members who are dispensing prescription drug products, Over-The-Counter (OTC) products, medical supplies and devices. As health care providers, it is paramount that we maintain the purity, quality and integrity of these products at all times. In all likelihood, the legislation would mean that returned containers would have to be kept in the back of the store where the pharmacy department is traditionally located. In this regard, NACDS is fearful that collected bottles and cans that are being stored for indeterminable lengths of time would attract rodents, roaches and other insects which could eventually jeopardize our members' pharmaceutical stock and inventory.

For this reason, NACDS must strongly object to the legislation in view of the health and safety of our customers who are also our patients.

ALTERNATIVE

As an alternative to the proposed bill to a mandatory Federal beverage container law, NACDS firmly believes that the states should have responsibility over litter control and recycling. Each state is unique and is best equipped to determine the types of laws and programs that will be meaningful, effective and will offer long term solutions to the problems of litter.

In conclusion, NACDS recommends that the Committee not approve the legislation. We appreciate the opportunity to present our views on this issue and it would be our hope that our statement will receive full consideration.

STATEMENT OF BARBARA KEATING-EDH, PRESIDENT, CONSUMER ALERT

Consumer Alert is a nationwide consumer organization with members in every State, who very much support a cleaner countryside, roadways, and city streets. We have closely followed the effects of various efforts to reduce litter through economic incentives. We would enthusiastically support any solution which would solve the roadside litter problem in an equitable and economical manner. Our observations have led to the conclusion that deposit/return recycling fails on both counts.

After consideration of price increases which would be borne entirely by consumers; sanitation problems which would burden small and large establishments alike; and limited effectiveness in reducing but not eliminating litter, we have come to question the wisdom of beverage container deposit laws presently under consideration in several States. We have noted the effects of such legislation implemented in Michigan, Connecticut, Maryland and Oregon.

Legitimate arguments can be made by business and industry about the adverse impact on commerce. State officials may voice concern over lost revenues to neighboring States. We are concerned only with the effect mandated deposits have upon consumers.

When we see litter, we are looking at the product of our 'throw away' society. Long the target of environmentalists, conservationists and social critics, packagers are blamed for the disagreeable actions of some of our citizens. What those same critics fail to realize is that disposable packaging has provided American consumers with an economic and public health revolution. Our food is clean, reliable and fresh thanks to glass, paper and plastic packaging.

Because of inexpensive disposable paper, we are the best informed people on earth. Every community in the land has its daily Press, every profession its educational journals, every candidate for public office his flyers and brochures. Yes, all of it is potential litter.

Our nation's future requires a program of resource recovery. It requires as well, an economic recovery plan to control runaway inflation. At a time when a careful balance is essential between clean-up and cost, it seems inappropriate that the Congress would consider launching an effort that is bound to cause a significant increase in consumer prices without comparable benefit. A federally imposed increase upon every six pack of beer or soft drink sold in the country is bound to be unpopular with the electorate at this time. In our view such an increase imposes an economic injustice on the many because of the actions of a few. Prices would increase by hundreds of millions of dollars each year. In addition many would never respond to the inconvenience of returning empties and would lose heavy sums in deposits to the distributors. We might be unsympathetic to those who chose to lose their nickel but returning empties is particularly difficult for the elderly and handicapped who, it is doubtful, are typical polluters.

The State of Michigan is often touted as a success story. True, litter has been reduced there, yet if the State were simply to send out crews to clean all types of litter, they could probably do so for $10 million annually. All told, the State, the taxpayer/consumer and industry in Michigan spent between $100 and $200 million last year to reduce litter from bottles and cans only. Michigan consumers pay $1.24 more for a case of beer and $1.00 more for a case of soft drinks.

Mandatory deposit laws as we have noted from experience in several States, merely reduce litter. They do not eliminate it. And so it becomes a matter of how clean and at what price. Ultimately a long-range re-education of the public will be needed to reduce littering to a minimum. We suggest that bottle bills may be costly band-aids where major surgery and less costly long range solutions would be far more effective.

By various estimates litter from bottles and cans comprises anywhere from 12 percent to 25 percent of all roadside litter. If deposit laws worked to 100 percent effectiveness, and if we accept the higher figure of 25 percent, 75 percent of unsightly litter on our landscape would remain after every can and bottle was returned. The most avid of proponents admit that at best we might achieve 60 percent compliance. This shows us that at the very best 60 percent of 25 percent, or 16 percent of all roadside litter might disappear if consumers pay hundreds of millions of dollars more for their beverages.

What we need to admit, putting thoughts of cost aside for the moment, is that we have in our society certain slovenly citizens who are prone to tossing cans and bottles from their car windows. The types of people who act this way will not be deterred by the nickle deposits. They will respond only to being caught and fined or to being taught responsibility. Deposit legislation is aimed at reducing the effects of the actions of these people by imposing higher prices and inconvenience on everyone else. Returning empties will be methodically carried out by those responsible citizens who wouldn't dream of littering and who train their own youngsters in environmental cleanup. I believe we can assume that the families of the members of your Congressional Committee fit this category. It will be you and your wives and thousands of other citizens driving those bottles back to the store! Mandatory deposits will create a chore for those who will bring them back with no thought to making a positive contribution to society. It will do nothing to alter the "throw away" society or deter hardcore litterbugs. It is another irritating bit of legislation aimed at the innocent in an effort to make the lawless comply. Slovenly people are never deterred by such and so we urge you not to neglect the rights of those who don't litter, as they are in the majority. They have done nothing to warrant the economic pressures being proposed here.

Many of us can remember returning bottles for the deposit when we were youngsters. Bottles were unique then and conditions were such that it was economically advantageous for industry to refill containers. Also, far fewer bottles and cans were in circulation, our society was not nearly as mobile as today's and we did not have in our midst so many people disrespectful of the landscape. Times have changed and solutions must as well. To try to make today's world fit yesterday's is socially unachievable and economically unfeasible. Today it is not cheaper to recycle and until it becomes so we will have a problem of high costs in trying to bring it about artificially.

Ideally, when recycling is economically advantageous, industry will be willing to pay for its collection and return. Then community organizations and scout troops will respond to the economic incentive. Then it will not be a chore but a new income for individuals and organizations. We do not know yet when that will be not to whom litter will be of value.

For the time being, the Consumer Alert organization believes that the plan presently underway in the State of Washington has merit. Under that State's system all producers of potential litter are taxed a small fee which is ear-marked for cleaning up the environment and for developing and promoting resource recovery projects. Slowly but surely recycling becomes institutionalized under such a plan.

Youngsters participating in that State's youth litter corps are learning respect for the environment. Their experiences will follow them throughout their lives and can be drawn on to solve litter pollution problems in their own communities. They would not have these jobs or this educational experience had that State not opted for the litter/recycling system over a deposit bill.

We are impressed with reports that Washington spent only 25 cents per resident to clean up trash during 1977. Neighboring Oregon operating with a bottle bill spent 35 cents per person in the same year just to go after bottles and cans. Plans like Washington, though not perfect, do have the backing of consumers, labor, business and environmentalists. It is rare when these groups can arrive at a consensus. But only such a consensus can effect meaningful change in social behavior.

We urge the Committee to take a good hard look at a large problem and endorse instead a long range solution which may include letting States try various methods in competition with one another to find the solution that is most effective and economical for all concerned.

STATEMENT OF MARK I. CROKE, ON BEHALF OF THE NATIONAL ASSOCIATION OF COUNTIES

The National Association of Counties[1] (NACo) has long supported enactment of national beverage containers deposit legislation. As a result, we welcome the opportunity to be here today and commend the Committee for holding this hearing.

NACo's support for deposit legislation is based on the fact that the costs of disposing of wastes in our throwaway society falls directly on local governments. Whether it is roadside litter or domestic refuse it is counties and other local governments who bear the responsibility, and the expense, of proper disposal.

Proper disposal of solid wastes, including beverage containers, is very expensive indeed, both economically and politically. While alternatives are being explored, the predominant method of disposal today is landfilling. Land, as we all know, is a scarce resource which is becoming scarcer. Even where land is available at reasonable cost, siting a landfill is probably exceeded only by siting a prison in terms of public acceptability. The short of it is that people want you to pick it up but they don't want you to put it down.

The difficulty in siting new landfills puts a premium on using existing facilities to their maximum advantage, clearly, reducing the volume of wastes which need to be disposed of will extend the life of existing facilities and maximize their utility. One way to accomplish such a reduction is through the enactment of a mandatory deposit law.

According to the General Accounting Office in a December 1980 report, a report by the way that I am sure is very familiar to the members of the Committee, total reduction in solid waste volume under a national container deposit system would be about 3–4 percent. This estimate was borne out by the specific studies done in Michigan and Maine where reductions were closer to 6 percent of total volume. When this is coupled with reductions in roadside litter of between 80–85 percent, savings for local governments can be very significant.

NACo strongly believes an incentive system, as embodied in deposit legislation, is preferable to a coercive system of increased enforcement of litter laws. Litter laws, of course, have their place. However, we have shown time and again in this country that a system which relies on economic self interest will be more effective than one which relies solely on public authority. In addition, a deposit law has the effect of shifting public costs onto the private sector. While this has been highlighted by some as a deficiency of the law it appears to us as only reasonable to expect the producers, and ultimately the products consumers, to pay all of the costs involved in producing and using a product, including disposal costs.

An additional question we would like to address involves the need for a federal role. If, as the evidence would indicate, states which have adopted beverage container deposit laws have had excellent results, and if consumers in those states have evidenced satisfaction with their systems, why is there a need for federal legislation? The answer is quite simple. National uniformity is the best interests of states which have already adopted beverage container laws particularly where they are bordered by states which have not adopted similar measures. In addition, we feel that it would be in the long-term interests of the industry to have national uniformity. Rather than having to comply with differing requirements from state to state, bottlers would have only a single set of requirements with which to comply.

In closing Mr. Chairman, NACo undertook a review of our position on this issue a little over a year ago. At that time, the debate was on repeating our long standing support for this issue. A committee member from Michigan related how when the measure was introduced in Michigan he campaigned actively in opposition. However, since enactment he has seen the results and had become convinced that he was wrong. He then characterized himself as one of the strongest proponents of beverage container deposits you could find anywhere. Our Committee was convinced and voted overwhelmingly to reaffirm our traditional strong support.

Again, thank you for the opportunity to be at this hearing. If you should have any questions I will be glad to try and answer them.

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[1] The National Association of Counties is the only national organization representing county government in the United States. Through its membership, urban, suburban, and rural counties join together to build effective, responsive county government. The goals of the association are to: Improve county government; Serve as the national spokesman for county government; Act as a liaison between the nation's counties and other levels of government; and Achieve public understanding of the role of counties in the federal government system.

STATEMENT OF THE GARDEN CLUB OF AMERICA

The Garden Club of America is a nationwide, private, nonprofit organization devoted to promoting the quality of our environment through knowledge of gardening and conservation techniques. Member clubs in almost every state of the United States have, since 1913, worked to promulgate the education of wise landuse, scenic beauty, and conservation.

For many years we have championed the conservation concept inherent in returning and reusing of beverage containers. Our clubs which are divided into zones consisting of several states, have striven (and continue to work) in their several states to achieve manditory deposit legislation. So far just under 20 percent of the total states have been successful.

The principles of recycling beverage containers, like those in nature's ecological cycles, are overwhelmingly compelling and should be adopted now more than ever in a throw away society that can no longer afford wasteful habits.

The Garden Club of America welcomes and supports "the Beverage Container Reuse and Recycling Act" S. 709, because we feel it will: prevent wasteful use of land on which cans, bottles, etc. are disposed of in the overburdened landfills; help prevent farm, road, and boat accidents by removing these objects of destruction; help create cleaner neighborhoods, abate urban clutter, improve our cityscape our river and shorefronts, and our roadscapes; conserve America's valuable resources by recycling; encourage the youth and others to work in reclamation centers; and create a uniform policy under which all of us can operate.

Of tremendous importance to the Garden Club of America is the fact that the encouragement of the entire American citizenry to return beverage containers by offering a reward for the return of each container is the best possible educational technique. An entire populace will, without preaching, become familiar with the benefits of conservation through which pride in the beauty of our country as well as personal self reliance can be reestablished.

I have been requested to present this testimony and the reaffirmation of the endorsement of S. 709 by the Garden Club of America by the chairman of the National Affairs and Legislation Committee, Mrs. Robert Hixon Glore. We look forward to its implementation.

STATEMENT OF THE INDEPENDENT TRUCKERS ASSOCIATION

It would be very easy to present many pages of testimony in support of Senate Bill 709, but the simple eloquence of that proposed legislation does it best.

In fact, the very wording, "the failure to reuse and recycle empty beverage containers represents a significant and unnecessary waste of important national energy and material resources" sums up the major thrust and need of this proposed legislation, along with, of course, the tremendous littering of empty beverage containers, as further outlined in the Bill.

The Independent Truckers Association finds it a bit sad that the federal government must, once again, intervene in the conduct of private enterprise, but in this case, the manufacturers of the beverage containers could hardly be held directly responsible for the tremendous littering of cans and bottles from sea to shining sea. Therefore, the real culprit, the careless public, must be made to realize the loss of material as well as the waste of production when they so carelessly and wantonly discard the containers by the roadside or even in the trash.

Therefore, even though our association winces at yet another federal law, we find the wince far more acceptable than the continuing buildup of trash on the nation's highways, as well as the useless waste of billions of cans (and bottles) every year.

There is little need in our testimony to recite the facts and figures of the effects of the beverage container deposit laws in those states that can rightfully boast of them. The potential increase in employment in the United States of about 80,000 new jobs in the handling and recycling end of the business of container returns, does not include the potential employment for the trucking industry, which includes the independent truckers as well as the Teamsters Union, both of which would benefit through the additional need of trucks and truckers.

There seems to be a national blindness to problems of waste disposal in this country, and the nation's professional drivers, most of whom are truckers, are well aware on a personal basis of the endless stream of cans and bottles on the nation's roadsides.

Many roadside parks, too, have their litter barrels jammed with dozens if not hundreds of cans and bottles every week, and those items, regretfully, are lost to mankind forever because of the lack of foresight on the part of the nation as a whole, and a lack of courage on the part of the beverage industry which, we feel, will not suffer any loss of sales if a national deposit law such as S. 709 is made effective.

Man, and Americans especially, seems to be able to do anything from laser beam eye surgery to transmitting television images from far off planets, but man, and especially Americans, has not yet become toilet trained, so to speak. Perhaps passage of S. 709 can nurture, on a national basis, the semblance of a conscience which will, in turn, provoke other energy savings across the land, energy savings that can be translated into meaningful gains in the area of national housekeeping.

The Independent Truckers Association has not done any in-depth research on the subject of potential employment in the trucking industry that would result through the transportation of containers to recycling centers, but if the figures contained in the Comptroller General's summary booklet of December 11, 1980 are correct, then the resulting employment increase in the trucking industry would be in the thousands, for if an additional 80,000 people would be employed in handling billions of can weighing tens of millions of pounds (a most conservative estimate, by the way), then the trucks needed would add millions of dollars a month to the employment figure, and with today's economy in the trucking industry in such a sad state of disrepair, any increase in employment should be welcome.

The ITA is preparing an in-depth study on the total effects of the increase of employment in trucking were Senate Bill 709 to be turned into national law, and this study will be presented to the Committee in the very near future.

Fortunately, not everyone in the country is shortsighted in the area of beverage container returns, and certainly the aluminum companies such as Alcoa and Reynolds which established recycling centers in Michigan, one of the states enjoying the deposit law, shows that at least those companies recognize the value of such savings, even though aluminum is the earth's most abundant metal.

There is no reason why the beverage industry itself should not have incorporated a deposit for all beverages, other than fear of loss of sales, and, because of this ear, obviously, the beverage industry does not want to help clean up America. Thus, passage of S. 709 is laudable and, even, necessary, and we support the efforts of all those co-sponsors of this legislation. If we are going to live in the Pepsi generation, let the next generation not be ashamed of the billions of roadside advertisements of public sloth.

STATEMENT OF THE AMERICAN RIVERS CONSERVATION COUNCIL

The American Rivers Conservation Council is a national citizen organization here in Washington that works to preserve and protect America's heritage of free-flowing rivers. National deposit legislation is a timely and effective approach to the ever-present problem of non-biodegradable litter in this country. A deposit on beverage containers cannot but help to lead to a noticeable decline in aluminum, glass and other litter.

A national deposit on bottles and cans would be particularly helpful to river protection. Empty beverage containers floating in a river or littered along its shores are an unsightly intrusion to those who follow. Broken glass and crushed cans are hazards at campsites.

Recreation on America's streams is experiencing a dramatic increase, even to the point of overcrowding on some rivers. As use grows, so too does can and bottle litter. Regular and conscientious river users recognize that streams are fragile environments and carry their beverages in reusable plastic containers; others carry cans which they thoughtfully carry out, but there is seldom a convenient place to take them for recycling. For the great number of boaters, deposit legislation would do even more to encourage carry-out of litter in light of the increased demands now placed on our natural areas.

We endorse S. 709 as a logical means toward lessening litter. By emphasizing the responsibility of the user, an ever-increasing form of litter could be significantly reduced.

STATEMENT OF NATIONAL RECREATION AND PARK ASSOCIATION

OVERVIEW

The recycling of beverage containers is generally considered to be part of a more complex and economically and environmentally challenging issue—solid waste disposal and resource recovery. Beverage containers account for six percent (by weight) of the nation's solid waste. A mandatory national system of deposits and refunds for beverage containers has been examined and recommended by the Resource Conservation Committee, an inter-agency cabinet-level group which was directed by Congress to examine possible "incentives and disincentives to foster resource conservation." The committee gave special consideration to a mandatory national system of deposits and refunds on beverage containers as a means of reducing waste by encouraging recycling of bottles and cans. Committee and staff assessments of the impact of such legislation make several observations bearing directly on recreation and park policy and management decisions. These assessments indicate that national legislation would, among other things:

Reduce litter volume by 34 percent eliminating 15-20 percent of the number of individual litter items;

Reduce the amount of solid waste by up to two million tons/year or 0.5 to 1.5 percent;

Realize an annual savings in lower disposal costs of $25 to $50 million annually.

Seven states presently have legislation mandating the recycling of beverage containers—Oregon, Vermont, Michigan, Maine, Connecticut, Delaware, and Iowa. The Michigan bill, approved in 1976, became effective December 3, 1978. A recent assessment of the law by the Michigan United Conservation clubs found the most obvious impact in the area of litter reduction. A State transportation agency survey found an 84 percent decrease in beverage litter. In public parks and recreation areas litter volume also decreased significantly, with several municipal and state agencies reporting reductions of 50-90 percent. This has resulted in substantial reductions in disposal costs.

STATEMENT OF POSITION

The National Recreation and Park Association supports the enactment of national policies, laws and programs which:

Require the mandatory recycling of disposable beverage containers;

Encourage public park and recreation systems to develop policies and management strategies to recycle solid waste, and to actively engage in education and interpretive functions which encourage resource conservation through solid waste recycling.

STATEMENT OF REYNOLDS METALS CO.

Reynolds Metals Company joins the members of the beverage container and packaging industries in opposing S. 709, the "Beverage Container Re-Use and Recycling Act." Our colleagues who have testified before the committee have certainly shown that beverage container deposits are not a comprehensive cost-effective solution to our litter and solid waste problems, and indeed, they deliver a great deal less than promised.

Rather than reiterate the many problems, costs, and burdens created by container deposits, we would like to inform the committee about a free market approach which Reynolds has been taking since 1967: aluminum recycling.

Reynolds Metals Company began its consumer recycling business more than 14 years ago. Our early experience with recycling taught us two things: recycling must be convenient to the consumer, and it must pay them for their efforts. Realizing this, we began taking recycling to the people through a network of mobile recycling units which make regular stops at shopping centers and other high traffic areas. These vehicles are operated by a driver who weighs the aluminum and pays the consumer cash on the spot for their metal.

As our consumer network expanded, permanent facilities were established to provide even more locations to service recyclers as well as to serve as bases of operations for our expanding mobile unit fleet.

Today we operate through a network of more than 2,500 buying locations, doing business in all 50 states, Canada, Puerto Rico and the Bahamas.

A number of years ago we formed a subsidiary—Reynolds Aluminum Recycling Company—to direct our recycling business. Through our network, aluminum is bought from consumers and then processed for shipment to reclamation plants in Virginia and Alabama. We are currently expanding our reclamation plant capacity to meet increasing demands for recycled metal.

Since 1967, Reynolds has recycled more than 1.2 billion pounds of aluminum, or the equivalent of almost 27 billion aluminum cans, and paid the public more than $300 million for their efforts. Today, Reynolds recycles more cans than it produces.

We believe that the aluminum industry will have a recycling rate of at least 50 percent this year, with a good possibility of reaching a 75 percent recycling rate industry-wide by 1985.

Aluminum recycling is a successful example of the private sector's solution to a problem without government imposing its will on the citizenry. Every day beverage industry members are beginning aluminum recycling programs of their own as are grocery store chains, other businesses and private entrepreneurs. The surge to recycle is spreading to items other than beverage containers: aluminum bottle caps, aluminum printing plates, aluminum building products, foil and many other household aluminum items. All are being recycled by Reynolds today.

Another large source of aluminum scrap is junk automobiles. This tremendous potential for recyclable aluminum in the automotive market is due to the increased use of aluminum in automobiles as a fuel-saving application and the development of the technology to separate aluminum from junk cars. To this end, Reynolds has installed the world's most sophisticated dense media separation facility at its Alabama reclamation plant to separate aluminum and other metals from auto shredder residues.

Reynolds is prepared to meet the challenges of recycling. A major operating division of the company, the Recycling & Reclamation Division, directs the consumer recycling program and operates our reclamation (scrap melting) plants. Reynolds also has been conducting research in the field of resource recovery. These efforts include the development and installation of a unique front end recovery system to recover aluminum from garbage or municipal refuse. This system is now in operation in Houston, Texas, with a smaller version operating in Salem, Virginia.

Deposit laws are not the answer to our litter and solid waste problems. We firmly believe that free enterprise will provide the ultimate solution. Our performance over the past 14 years proves it.

STATEMENT OF RALPH B. HIRSCH, NATIONAL LEGISLATIVE DIRECTOR, LEAGUE OF AMERICAN WHEELMEN

The League of American Wheelmen, speaking for the bicyclists of the United States, strongly endorses the concept of a nationwide system of mandatory deposits on beverage containers.

Many good reasons have been advanced to support deposit legislation: savings in energy and materials, creation of jobs, cleaner roadsides, a reduced solid-waste load. While these reasons appeal to us too, we—more than 100 million Americans who bicycle regularly or occasionally—have a very special perspective on this issue. We suffer a unique and disproportionate burden as a direct result of broken glass on the roads and streets of this country. No other group bears a similar burden, and no other solution to the problem of throwaway containers (such as voluntary recycling) seems to meet our needs.

Broken glass on the roads imposes huge costs on the bicyclist. In each of the past three years an average of 28 million bicycle tires and 39 million bicycle tubes have been replaced, at an annual cost of about $370 million. Based on a survey of bicycle shops in 12 states, our best estimate is that the damage due to broken glass makes up about 50 percent of all causes for replacement of tires and tubes; in some areas the proportion may be as high as 75 percent. Fifty percent of $370 million is $185 million per year, the direct cost to bicyclists of broken glass on the roads.

Bicyclists suffer a second economic cost: the time lost in repairing flats. We estimate that at least 60 million flats are caused each year by broken glass. If only 20 minutes are spent in repairing each one, that means a total of twenty million man hours (or woman hours) wasted. At a rate of only $5 per hour, that comes to $100 million per year.

But we are uniquely subject to yet another cost, in injury, suffering and possible death, resulting from broken glass on the road. Here are two brief accounts, one from Virginia, the other from Kansas:

> About two years ago I severely cut my hand on a broken bottle in the road. I was trying to avoid both the glass and a bus, and lost my balance. Medical treatment was required, although there is no permanent damage. (Arlington, VA.)
>
> On our usual Saturday morning ride . . . a group from [illegible] club was heading north on Webb Road . . . more or less in single file, four or five feet from the curb and proceeding at approximately 17 or 18 miles per hour. The lead rider called out "glass on the road" and swerved to the left, the next rider swerved left, the third rider touched the wheel of the second rider and crashed on his right shoulder, breaking his collarbone. I was the fourth rider, and in my effort

to avoid the downed rider, I stopped too quickly and went over head first, scratching my helmet and taking considerable skin off my shoulder, arm and knee and severely bruising one hand. The rest of the riders were able to avoid the mess. (Wichita, KS.)

Studies in states with bottle deposit laws have shown marked reduction in container litter (Michigan reported an 85 percent reduction in items, and a 90 percent reduction in volume). Even modest assumptions as to the effect of deposit laws on the reduction of broken glass show big benefits to the bicycling community. A reduction of merely 20 percent would save us $37 million annually in tires and tubes and $20 million in time; a more probable reduction of 50 percent would save us $92 million in tires and tubes, and $50 million in time.

The experience of the states that have deposit laws demonstrates that the results are beneficial. However, a national solution—rather than a state-by-state resumption of the deposit system—will avoid unnecessary inequities, dislocations and costs to the industry and will reduce far more quickly the costs and hazards to the nation's bicyclists. We ask the Congress to enact now a national system of mandatory deposits.

GROUP FOR RECYCLING IN PENNSYLVANIA,
Pittsburgh, Pa., September 30, 1981.

Hon. BOB PACKWOOD,
Chairman, Senate Commerce Committee,
U.S. Senate, Washington, D.C.

DEAR SENATOR PACKWOOD: Group for Recycling in Pennsylvania (GRIP), a public interest group whose concern is the conservation of energy and materials, writes on behalf of S. 709 the federal beverage container bill.

This and the numerous previous "bottle bills" introduced have generated disproportionate amounts of heat but much less light. The bill probably has come to symbolize the controversy between those who would produce more energy from new sources and those who would conserve what is at hand and use all efficently.

We submit that uncovering new sources of both materials and energy requires immense capital investment—too often, largely from public money, causes environmental damage as yet not even predictable, creates the fewest jobs per dollar invested and delivers energy services which are leat cost-effective. Further, energy from new sources is fuel of the future, in that new plants require long lead times before they are brought on line.

By contrast, conserving both energy and materials requires far less capital, creates more jobs and can take effect immediately. A conservation effort must include a multitude of measures. None alone would make the decisive difference. Instead, it is in the aggregate of many measures of thrift and ingenuity—ranging from tiny to massive—that the savings are accomplished.

One such measure is putting a stop to wastefulness. Mining and refining raw materials for just one use is wasteful, by anyone's definiton; and that is exactly what is done with 75 billion of the 90 billion beverage containers manufactured annually in the United States. Moreover, not only does the trashing of 75 billion containers represent profligate waste, it also represents and promotes an uncaring mindless attitude toward the management of our natural resources. Converting ourselves from attitudes of wastefulness to attitudes of thrift is an all important step toward cost-effective energy and national energy self-sufficiency.

The beverage industry could reduce its own energy consumption by 44 percent. A study done by the Federal Energy Administration in its time, projected savings of the energy equivalent of 81,000 barrels of oil per day, nationally. In addition, 1.3 million tons of steel can be conserved, as well as 43,000 tons of aluminum (also largely imported and energy voracious in its processing).

To be sure, no one can predict energy and materials savings with complete accuracy. The actual, final market mix of containers will determine the savings. We do know, however, that a metal container, recycled, requires less energy and materials and pollution clean-up expenditure than successive metal containers made each time from virgin materials. We also know that a bottle can make ten trips from bottler to consumer, and that this system of refilling containers is by far the most conserving.

The beverage industry would put its faith into voluntary recycling. Some, the aluminum industry especially, have done a very commendable job of buying its containers back to be recycled into new ones. Yet, even they, with their very good and expert efforts, have only succeeded in getting at most, one-third of their cans back—this after ten years of effort.

The industry's opposition amounts to a tyranny of a few bottlers and brewers who would dictate energy policy to the Nation.

There are other reasons for adopting container regulation:

Litter reduction.—In these days of strictures of public spending, litter pick-up and disposal will become an even greater burden to local government than it already is. Michigan, a highly industrialized and populous State, reports highway litter reduction of 40 percent overall and an 80 percent reduction in container litter. The other States with "bottle bill" enacted, report similar litter reductions. Government spending is said to be inflationary. Senate bill 709 would present an opportunity to reduce public spending for litter control.

Business opportunities.—Container regulation can translate into a new money maker. In Michigan, $20 to $40 million worth of unclaimed container deposits go back to the industry. Several distributors have set up recycling businesses on the side which are making money.

Jobs.—The effect on the job market is admittedly two-sided. Some jobs in can and bottle manufacturing may well be lost.

This, however, is by no means a certainty. The effect on jobs will depend entirely on the container market mix we will have after enactment. For instance, Vermont continues to sell almost as many throw-away containers as before.

To safe guard against lay-offs in skilled jobs, we would be anxious to see the phase-in period provided.

A counter balance is the very considerable gain in jobs to be anticipated. True, the nature of such jobs will be largely unskilled in the retailing and distribution industries in order to process the empties. But the kind of jobs that will open up are the sort which will give a leg up to young persons.

We cannot go on throwing out our capital in the form of energy and raw materials supplies. We cannot go on throwing out our future with the beer and soda pop can and let the devil take the hindmost. It won't be the devil who will take the hindmost, it will be our children.

Yours very truly,

LORE S. KEFFER, *President.*

NOVEMBER 4, 1981.

Commerce, Science, and Transportation Committee.

DEAR SIR: Our Island Beautification Committee on Grosse Ile wholeheartedly supports a nationwide Bottle Bill. We have seen here on our Island a significant drop in bottle and can litter from 62 percent in 1978 to 7 percent in 1981.

Enclosed please find a copy of our annual litter survey where members of our committee count visible trash along the same 20 miles of road every March. Roadside clean ups we carry on from April to October are much more manageable now that the amount of beverage container trash is greatly reduced. Our community is not only cleaner and more attractive, but a valuable resource in once thrown away containers is returned for reuse and/or recycling.

Michigan has experienced a reduction of 6 percent in volume in its solid waste stream in 1979 and beverage container litter has been reduced 84 percent. All good signs that the Bottle Bill works in Michigan, an industrial state.

We would prefer a higher deposit than five cents in the nationwide bill and would suggest the 10 cents minimum in the Michigan Bottle Bill. We like the idea of a two cents handling fee per container to reimburse the retailer which we don't have in Michigan.

We urge a favorable vote on S. 709.

Sincerely yours,

PAMELA A. FRUCCI, *Secretary.*

Enclosure.

ROAD LITTER SURVEY

Date: 1978.

Time of day: Last week end of March.

By: Island Beautification Committee.

Route (street between crossroads): Meridian, Parkway, E. and W. River Roads, Groh, Thorofare, Horsemill, and Bridge.

Total Miles Surveyed: (both sides of road) 20.15.

Classification of debris

Bottles	2,193
Cans	3,438
Paper (actual number of pieces including cups, bags, newspaper, etc.)	2,884
Miscellaneous e.g. iron, aluminum, wood, rags, etc.	605
Total	9,120

From 1977—cans up 1,210, bottles up 1,020, paper up 847 and miscellaneous trash up 337.

ROAD LITTER SURVEY

Date: Last week of March 1981

Time of day: Daylight hours

By: Island Beautification Committee (Wallace, Frucci, Case, Krantz, Schaffner, Hascall, Koester, Bain).

Route: (Street between Crossroads): West River, East River, Meridian, Parkway, Thorofare, Groh, Bridge, Horsemill.

Total miles surveyed: (both sides of road) 20.15.

Classification of debris

Bottles	170
Cans	136
Paper (actual number of pieces including cups, bags, newspaper, etc.)	3,166
Miscellaneous e.g. iron, aluminum, wood, rags, etc.	664

Total trash was up in item count by 98 from 1980. Paper was up 197, bottles and cans down 31, and misc. trash down 68. Bottles and cans made up 7 percent of the total, paper 77 percent, and misc. trash 16 percent.

NATIONAL RESTAURANT ASSOCIATION,
Washington, D.C., November 10, 1981.

HON. BOB PACKWOOD,
Chairman U.S. Senate, Committee on Commerce, Science, and Transportation, Washington, D.C.

DEAR MR. CHAIRMAN: The National Restaurant Association (NRA) appreciates this opportunity to comment on S. 709—Mandatory Beverage Container Deposit Legislation.

The NRA is a non-profit trade association with headquarters in Washington, D.C., and offices in Chicago, Illinois. It offers programs in public affairs, education and research to its member companies. These 10,000 members operate more than 100,000 foodservice facilities in the United States and in 37 foreign countries.

The NRA is opposed to mandatory beverage container deposit legislation at the state and national levels. Designed to conserve energy and reduce litter, this legislation results in considerable problems for the foodservice industry. One main concern is the serious sanitation problem returnable beverage containers create for restaurateurs. Our members comply daily with very stringent state and local sanitation ordinances in both dining and food-processing areas. We oppose Senate Bill 709 because this crucial responsibility could be crippled by a regulation that would force many of our members to handle, sort and store thousands of used, often-filthy, beverage containers.

Sanitation problems resulting from the bottle bill have been documented in Michigan and other mandatory deposit states. A July 2, 1981 editorial in the Holland (Michigan) Sentinel summarized the sanitation problem as follows: "The condition of some of those (containers) is atrocious. It is revolting what some people put in (containers) before returning them. Think the worst, because that's what sales clerks are finding. . . . Descriptions of what is found in them would turn one's stomach."

Returnable beverage containers are a potential health hazard; a condition created when thousands of used and sometimes contaminated beverage containers are handled, sorted and stored in the same area as food products. No regulation, regardless of its intent, should be allowed to foster these unsanitary conditions.

A number of independent sources have called attention to the potential health hazards associated with mandatory deposit legislation. Last year the Michigan Department of Agriculture reported, "serious, widespread cockroach and rodent problems in retail establishments are directly related to the return of beverage containers that contained foreign matter." The Michigan agency also reported that the state's retailers spent $2.7 million more in 1980 for pest control services than in 1978—the year before the state's deposit regulation was implemented.

These conditions are more than just troublesome; they are frightening. These sanitation problems are especially prevalent in urban areas where many food outlets lack adequate space to properly handle the volume of returned beverage containers. Restaurants utilize every inch of space, and the space is always costly—for example, in some areas of Washington, D.C., as high as $45 per square foot. Further, it is not impossible under a bottle bill for restaurants to wind up with more empties than they sell.

Many restaurants operate on a slim profit margin and cannot afford to absorb the added costs associated with pest control and the handling, sorting and storage of beverage containers. These businessmen have no choice but to pass these costs along to consumers. Mandatory deposit regulations have been implemented in six states and the result has been the same in each: higher prices to consumers. Clearly, it is inflation caused by needless government regulation. By actively considering a federal deposit regulation, Congress is demonstrating an apparent willingness to fight a small portion of the litter problem with a hidden tax in the form of higher beverage costs.

The September 15 Boston Globe carried an enlightening article. In it, two economists from Harvard and MIT warned that a Massachusetts deposit regulation would cost consumers in that state between $80 million and $100 million. The economists wrote, "It is obviously much easier to impose a hidden tax that raises producers' costs and consumers' prices but doesn't have to go through the budget process. Indeed, as the debate over the bottle bill has shown, imposing this kind of hidden tax doesn't even require its proponents to calculate what the cost would be."

For the reasons outlined above, the National Restaurant Association opposes S. 709. We feel that adequate study of the benefits of such legislation has not been completed and, until further studies are made, we urge that legislation of this kind not be enacted.

On behalf of the foodservice industry, thank you for the opportunity to present our views and for the consideration our position will receive during your deliberations.

Sincerely,

Robert E. Bradford, *President.*

Kaiser Aluminum & Chemical Corp.,
Oakland, Calif., October 30, 1981.

Hon. Robert Packwood,
Chairman, Committee on Commerce, Science, and Transportation, U.S. Senate, Washington, D.C.

Dear Mr. Chairman: On behalf of Kaiser Aluminum & Chemical Corporation, I am taking this opportunity to express our views concerning national beverage container deposit legislation. It is requested this be included for the record of the hearings before your committee scheduled for November 5, 1981, on the Beverage Container, Reuse and Recycling Act (S. 709).

We believe there are positive, cost effective alternatives to such deposit legislation which will accomplish the objectives of deposit legislation supporters, at far less cost and without restrictive governmental intervention.

The objectives of deposit legislation are to control litter, divert solid waste from waste disposal facilities, and conserve energy and raw materials. Unfortunately, deposit legislation doesn't take into account recycling efforts going on today throughout the country. Establishing an irreversible federal program for the entire country would undo many successful programs which are operating efficiently because they have been tailored to local situations.

In addition, litter control through community-based programs such as Clean Community System have a proven track record in motivating and educationg people—the ones who litter—to change their habits and keep their own environment litter-free.

Our company, like many others, has been working hard to support and promote community recycling and litter control programs, because we believe in the objectives set forth by many who support deposit legislation. However, we believe that the record is clear that those objectives can be met quicker, and much more efficiently, when people are allowed to work together, and retain control of their programs, at the state and community level.

Deposit legislation, by placing an arificial value on beverage containers, would eliminate a consumer's voluntary choice to recycle and be reimbursed for the true value of his material. Last year alone, consumers were paid $144 million for recycling aluminum in the United States.

In addition, the experience in deposit states such as Oregon and Michigan shows that the cost of products to consumers has risen by far more than the cost of the deposit. Moreover, deposits do not address the preponderance of other materials which contribute to litter and solid waste and which are being addressed through multi-material recycling and community litter control projects, at an acceptable cost.

We believe the extemely high cost of deposit programs for very small benefits will have an extremely negative impact on consumers. I am including a study on the projected cost of such legislation in the State of California for your committee's study.

Our company has also published the attached case study report on eight success stories in this very field, and we believe the variety of approaches, from non-profit to free enterprise solutions, from rural settings to urban centers, can be an inspiration to interested citizens anywhere in the country.

Thank you very much for the opportunity to share with you the positive, cost-effective alternatives to deposit legislation, If there's any more detailed information we can provide, please feel free to ask.

Sincerely,

CORNELL C. MAIER.

HOUSE OF REPRESENTATIVES,
STATE OF DELAWARE,
Dover, Del., November 3, 1981.

Hon. ROBERT PACKWOOD,
Chairman, Senate Committee on Commerce, Science, and Transportation, Dirksen Senate Office Building, Washington, D.C.

DEAR SENATOR PACKWOOD: I strongly support national deposit legislation. People want bottle bills. Throwing away throwaways is no longer acceptable in our communities. Many benefits to America would accrue if we return to a "waste not, want not" society and one step could be national deposit legislation. I present several points for consideration by the Committee.

At present, six states have "Bottle Bills" and a seventh (Delaware) will implement one next July. From the view of the national supplier, these "bottle bills" presently in effect in the different states have a web of varying requirements which the manufacturers and distributors must meet in order to do business on a regional basis. It would be far cheaper and simpler to have only one set of national rules for them to follow, regardless of where their product was to be sold.

People want bottle bills. In Delaware, we have had two public opinion polls taken during the past few years which show a continued desire by many people to have all segments of the community act in a responsible way. In 1976 a poll conducted by the College of Urban Affairs of the University of Delaware showed that 80 percent of our people wanted a 5-cent deposit on beer and soft drink cans and bottles. Five years later another poll conducted by the Political Science Department of the Delaware State College confirmed sustained support . . . 74 percent wanted deposit legislation. I attach copies of both polls for the use of the Committee.

People want bottle bills. Popular support grows as people become accustomed to the change in habits, and pride in the state increases. These results have been shown in surveys after 18 months in Maine, after 2 years in Michigan, and after 4 years in Vermont. It is only logical to allow people in all our states to participate in and benefit from deposit legislation, which would be possible under S. 709.

Delaware has a problem which national legislation would solve . . . we share a long border with Maryland. One of the "unknowns" used by opponents was the number of persons who would cross the border and bring back containers which had no deposit on them and which would not be in our refund system, but which we would have to handle as trash. Consequently, implementation of the initial bill which was passed in 1978 was tied to both Maryland and Pennsylvania having similar legislation enacted. Because so many people felt Delaware laws should not be dependent on other states' actions, this provision was removed in June 1981, and our deposit legislation is now scheduled to become effective July 14, 1982.

Opponents try to equate litter control regulation (by means of a tax) with deposit legislation. Reduction of litter is only one of many community benefits which result from bottle bills. Litter taxes place the burden on those who do NOT litter: bottle bills reward those who do not litter. Even if litter control is enacted, there are many other benefits which are lost to the state and local economy such as entry level jobs in trucking or in redemption centers, reduced tax expenditures for additional landfill space, recovery of resources, etc. All of these are needed at the national level.

I certainly hope that the Senate Committee will report this bill out favorably and that it will come up for a vote on the floor of the Senate soon. We need it. We can no longer afford the luxury and expense of throwaways. Please make this communication part of the record. If there is any additional material needed I will be glad to supply it. Thank you very much.

Sincerely,

GWYNNE P. SMITH, *Chairman.*

THE DELAWARE SURVEY—THE MOOD OF THE PUBLIC

(By Joseph H. Spina, Associate Professor of Political Science, Delaware State College)

The information presented in this report was gathered from a statewide telephone poll of 751 Delawareans conducted between March 1 and March 9, 1981. Telephoning was done from 5:30–9:30 p.m. on weekdays and from 1:00–9:00 p.m. on Saturdays and Sundays. Respondents were questioned by trained interviewers operating from a central facility on campus and under professional supervision. Only adults over the age of 18 and living in households were interviewed. The response rate for the survey was 74 percent.

To obtain our sample, 165 pages were randomly selected from the New Castle/Wilmington telephone directory and 85 pages from the Lower Delaware directory. Fifteen phone numbers were randomly selected from each page for a total of 3,750 numbers. These numbers were then transferred to separate "location sheets" with the last digit of each exchange randomized by adding +2. This procedure, known as Random Digit Dialing (RDD), preserves anonymity and insures that both listed and unlisted telephones have an equal chance of being called. Three completed interviews were obtained from each location sheet for a sum of 497 interviews from New Castle County and 254 interviews from Lower Delaware giving a total sample of 751 respondents. Of this number, 66 percent were from New Castle (15 percent lived in Wilmington), 15 percent were from Kent and 19 percent were from Sussex—proportions roughly identical to the actual state distribution. The sample was further stratified by sex with a male/female quota assigned to each location sheet, producing a sex breakdown of 48 percent men and 52 percent women.

An examination of two additional demographic variables for which known population characteristics were available indicates that the sample closely approximates all age cohorts in Delaware but slightly under-represents blacks. Eleven percent of our respondents were black compared with 16 percent for the state as a whole. This under-representation of blacks is common in surveys and appears to occur because fewer blacks have telephones than whites.

The sampling error for a public opinion poll of this size is plus or minus four percent. That is, in a sample of 751 people, there is a 95 percent chance or better that the margin of error will not exceed ±4 percent variation from the distribution which would appear if the state's entire population were questioned. The possibilities for error are larger when numbers are displayed for subcategories within the sample.

TABLE 21.—THE BOTTLE BILL

Our respondents liked the major provisions of the so-called "bottle bill". Requiring a 5 cent deposit on beverage containers purchased at stores and supermarkets as a way of cleaning up roadside litter was supported by 74 percent of the public and with 55 percent asserting "strong" approval. Furthermore, support cut across county lines with substantial majorities in New Castle (73 percent), Kent (73 percent) and Sussex (75 percent) favoring the proposal.

TABLE 22.—FARMLAND PRESERVATION

By a two-to-one ratio, Delawareans approved the creation of "exclusive agricultural zones" that would protect farmland from developers and reward farmers with special tax advantages. Zoning was approved by 61 percent of the people with 30 percent opposed. Strong support was registered in all three counties.

AGRICULTURAL ZONES: VOLUNTARY OR MANDATORY?

74 percent of those respondents who supported agricultural zoning favored voluntary participation by farmers rather than mandatory incorporation, an approach advocated by only 20 percent.

TABLE 21.—THE BOTTLE BILL

It's been suggested that in order to clean up roadside litter in Delaware, consumers be required to pay a 5¢ deposit on beverage containers purchased at stores and supermarkets. The deposit would be refunded when the containers were returned to the store. Do you approve or disapprove of this idea?

	Percent
Approve strongly	55
Approve moderately	19
Disapprove strongly	16
Disapprove moderately	8
No opinion	2
Not sure	0

COUNTY DIFFERENCES ON THE BOTTLE BILL [1]

[In percent]

	Favor	Oppose	No opinion	Not sure
New Castle	73	25	2	0
Kent	73	25	2	0
Sussex	75	21	1	3

[1] Percentaged by row.

The College of Urban Affairs, University of Delaware, did a Telephone Survey in the spring of 1976. Coalition members made phone calls to 1440 homes; 350 in each of the 4 areas in the States.

SURVEY RESULTS

[In percent]

	Wilmington	New Castle County	Kent	Sussex	Total [1]
Q. 1. Do you think there is a problem with the amount of bottles or cans littering the streets, highways, parks and other public places in Delaware?					
Yes	85	88	86	89	87
No	12	10	13	8	10
Unknown	3	2	1	3	2
Q. 2. Do you now save bottles or cans for recycling?					
Yes	13	15	20	23	17
No	86	84	79	76	83
Unknown	1	1	1	1	0
Q. 3. Would you be in favor of requiring a refundable 5-cent deposit on all beer and soda bottles and cans?					
Yes	70	81	79	85	80
No	25	14	14	12	16
Unknown	5	5	7	3	4
Q. 4. Would you be in favor of a nonrefundable tax of 2 cents on all beer and soda to pay for litter control?					
Yes	53	42	47	53	46
No	43	54	45	42	49
Unknown	4	4	8	5	5

[1] The totals take into account the population distribution of the 4 areas.

THE ALUMINUM ASSOCIATION, INC.,
Washington, D.C., November 12, 1981.

Hon. BOB PACKWOOD,
Chairman, Commerce, Science, and Transportation Committee, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: On behalf of the Aluminum Association Incorporated, I request that this letter be included in the record of the hearing held on November 5, 1981, by the United States Senate Committee on Commerce, Science and Transportation on S. 709, the Beverage Container, Reuse and Recycling Act.

The Aluminum Association believes that voluntary aluminum can recycling has done much to reduce litter without the disruptive aspects of mandatory deposit laws. Furthermore, the Association suggests that additional voluntary recycling should be encouraged for other beverage containers which would reduce litter even more. Beverage containers represent only a small portion of our Nation's litter problems.

Voluntary recycling and other less costly alternatives to mandatory deposit legislation can accomplish the objectives we are all striving to obtain—litter control, better solid waste management, and conservation of energy and natural resources. Deposit legislation does not, however, take into account the tremendous success of industry sponsored recycling efforts. There are successful programs now underway throughout the country.

In 1980, a record 13.8 billion all-aluminum cans were returned to be recycled. This is an increase of 67 percent over 1979 when 8.3 billion cans were recycled. The recycling of cans in 1980 represents 600 million pounds of aluminum. In 1972, 53 million pounds of aluminum were reclaimed from all-aluminum cans. This represents an increase of over 1,000 percent in eight years.

More than 1 million Americans collect aluminum cans on a regular basis, with millions more collecting cans part-time, creating many jobs and additional income. Deposit legislation could inhibit the voluntary choice consumers now have to recycle and be paid for their efforts. Under a deposit system, there are no monetary benefits to the consumer, only potential costs.

We support the same objectives, but the aluminum industry believes positive and cost-effective approaches to solving our litter and solid waste problems can be pursued rather than establishing a federally mandated program which could eliminate or drastically curtail existing programs.

We thank you for the opportunity to share our views and commend you for your leadership in seeking solutions to our nation's litter, solid waste and energy problems. We believe, however, that voluntary recycling and other community based programs provide a greater benefit to consumers and the public than a restrictive mandatory deposit system.

Sincerely,

JOHN C. BARD, *President.*

LEAGUE OF WOMEN VOTERS OF THE UNITED STATES,
Washington, D.C., November 20, 1981.

Hon. BOB PACKWOOD,
Chairman, Senate Commerce, Science, and Transportation Committee, Dirksen Senate Office Building, Washington, D.C.

DEAR SENATOR PACKWOOD: The League of Women Voters of the United States, which has members in 1,249 communities in all 50 States, Puerto Rico, the Virgin Islands, and the District of Columbia, appreciates this opportunity to present our views on S. 709, the Beverage Container Reuse and Recycling Act of 1981. We believe that the time has come for Congress to enact a national beverage container deposit law which would reduce solid waste and litter, save vital energy and material resources, and lower consumer costs. We therefore wholeheartedly support the concept of S. 709.

In 1973, after a 2-year study of our Nation's solid waste problems, the League adopted a position on solid waste management that calls for reducing waste generation, recovering reusable resources from the waste stream, and safely disposing of the remainder. Since reaching agreement on that position, local and State Leagues, as well as the League of Women Voters of the United States, have spoken out again and again in support of federal deposit legislation. In addition, many State and local Leagues are actively encouraging State legislatures and local governments to enact refundable deposit systems both as referenda and as legislation.

But State and local efforts can only result in partial solutions. State and local Leagues across the country reiterate this message: a federally enacted beverage container law is essential to stem the growing tide of discarded cans and bottles—estimated in 1978 at 65 billion containers annually—that waste energy, resources and money.

Experiences in Vermont, Oregon, Michigan, Maine, Connecticut, and Iowa demonstrate the potential benefits of a federal mandatory deposit system. As long ago as 1978, it was estimated that these benefits include:

A 40-percent reduction in litter volume.

A $260 million savings in solid waste collection and disposal costs—a particular benefit to strained local government budgets.

A savings of over 40 percent of the energy needs of the beverage container industry.

A significant reduction in raw materials consumed by the beverage container industry (especially bauxite and iron ore).

Major reductions in air and water pollution by the beverage container industry.

In general, we find the arguments about the inconvenience resulting from mandatory deposit legislation to be without merit. Consumers in States which have similar laws on the books have demonstrated that the vast majority of purchasers will return their used containers. And the ever-present need for money by scouts, religious organizations and other service groups provides them with incentive both to collect used containers from households not choosing to return them and to gather discarded containers.

It is increasingly difficult for industry to operate with vastly differing laws even in contiguous States. State boundaries currently can create confusing situations for citizens—especially tourists purchasing beverages on one side of a border and consuming them in another.

A deposit system, accompanied by public education on the benefits of returnable containers, can accomplish still another objective: a reinforcement of the message that in a world of finite resources—both energy and materials—conservation, recycling and reuse can become a part of our lives without disrupting our lifestyles. For all these reasons, the League of Women Voters supports the Beverage Container Reuse and Recycling Act's provisions to establish a national mandatory deposit system. We are happy to note that Massachusetts has just passed a mandatory deposit law.

We would also like to voice our support for the provision of S. 709 which would ban the sale of metal beverage containers with detachable parts. Such a ban would be beneficial both in reducing litter and creating a safer living environment for humans and wildlife.

This issue has strong grass root and public support. All polls show that from 74 to 80 percent of the public favor such legislation. In Maine the initial Bottle Bill referendum passed by a 54-percent margin. Two years later, when the opposition sought to repeal it, 84 percent of voters supported the legislation.

In conclusion, our members are anxious to see this legislation pass. There is an ever-mounting litter problem, a burgeoning solid waste problem and failure of other alternatives to achieve the immediate benefits deposit legislation could achieve.

Sincerely,

MERILYN B. REEVES,
Natural Resources Chair.

ASHLAND, OREG., *September 15, 1981.*

Representative JIM WEAVER,
333 West 8th Street,
Medford, Oreg.

Re: National Bottle Bill Legislation

DEAR REPRESENTATIVE WEAVER: I believe that the Oregon bottle bill works, and believe a similar program on a national basis is worth everyone's support.

Since the bottle bill was put into effect, I nave noticed a decrease in litter (specifically bottles) along Oregon's highways and roads. I have driven the length and width of the U.S. several times, and have found no other place as clean as the State of Oregon. I have also observed the effects of the bottle-return program in Portugal—there is a fair amount of paper litter along the roadways there, but there are no bottles!

Please support legislation which will help us to improve the quality of our natural environment nationwide!

Sincerely,

VIRGINIA PETITT.

THE COUNCIL OF THE CITY OF NEW YORK,
New York, N.Y., October 27, 1981.

Hon. ROBERT PACKWOOD,
U.S. Senate,
Washington, D.C.

DEAR SENATOR PACKWOOD: I wish to go on record in support of S. 709, the Beverage Container Re-Use and Recycling Act. I am writing both as Chair of the Consumer Affairs Committee of the New York City Council and as convenor of DABB, the Downstate Alliance for Bottle Bills.

DABB grew out of a meeting of legislators from New York City and three adjacent jurisdictions—Nassau, Suffolk and Westchester Counties. All four jurisdictions have passed resolutions favoring a state-wide bill, and Suffolk County has enacted a local "returnable" bill, which is slated to go into effect in April 1982. The position of DABB is that, in the event that a state-wide bill is not enacted, we will introduce compatible bills in our respective areas to come up with a regional approach for the Metropolitan New York area.

The impetus behind such an approach is germane to the issue of the national bill you are proposing. On a matter like this that affects retail buying habits, as well as competition among manufacturers, it is understandable that no one county or city wants to proceed alone. Suffolk County is eager to have adjacent Nassau County enact similar legislation, but Nassau County, with its western flank bordering New York City, would prefer to act in unison with both of its neighbors. New York would feel more comfortable about proceeding if its own northern neighbor, Westchester County, were also involved. But New York City business people and legislators may also be thinking about nearby New Jersey where no such legislation exists.

While I believe that a New York State bill or a Metropolitan New York regional bill would be highly successful, as has been demonstrated in several other states, there is no question but that a national bill would be even more effective.

From the standpoint of energy conservation, beautification of the landscape and the growing problem of solid waste disposal, we desperately need this legislation. While manufacturers protest that re-tooling costs would be very high, I believe they would be less likely to raise this objection if the requirement were nationwide. Furthermore, most of these manufacturers previously went through a re-tooling process to produce disposable bottles and found those costs easy to absorb. The 2¢ redemption figure will also make it much easier for retailers at least to break even on these transactions. Many would no doubt be able to make small profits.

Numerous studies by governmental and other bodies have also demonstrated that there is a net gain in employment in the various states where such laws have been enacted. While retail prices may rise slightly at the beginning, studies have also shown that prices have leveled off after re-tooling costs were written off.

Judging by the newspaper polls and the enthusiastic response that the introduction of local legislation received in the New York area, I feel confident in stating that the Beverage Container Re-Use and Recycling Act would be a very popular piece of legislation. I strongly urge its enactment.

Sincerely,

CAROL GREITZER, *Council Member.*

NATIONAL AUDUBON SOCIETY,
New York, N.Y., November 3, 1981.

Hon. MARK HATFIELD,
U.S. Senate, Committee on Commerce, Science, and Transportation, Washington, D.C.

DEAR MARK: For many years the National Audubon Society and a good number of its chapters have supported legislation to encourage recycling of bottles and cans, and so we are most encouraged at your introduction of S-709, the Beverage Container Reuse and Recycling Act.

We know how effective bottle and can legislation has been in your own state of Oregon, as well as in such states as Michigan and Maine. It is unfortunate that special interest lobbies have been successful in defeating proposals in other states and counties, and thus it seems wise and necessary at this time to enact national legislation in order to provide a uniform national system. Not only will such legislation help to clean up our roadsides and parks, but it will also save energy and conserve natural resources.

Thus, on behalf of the 452,000 members of the National Audubon Society, I heartily endorse S-709, the Beverage Container Reuse and Recycling Act.

Sincerely,

Russell W. Peterson,
President.

American Public Health Association,
Washington, D.C., November 18, 1981.

Hon. Bob Packwood,
Chairman, Commerce, Science, and Transportation Committee, Dirksen Senate Office Building, Washington, D.C.

Dear Senator Packwood: At its 109th annual meeting, the American Public Health Association adopted a resolution entitled, "Mandatory Beverage Container Deposit Legislation." A copy is enclosed for your information.

The American Public Health Association strongly supports the enactment of national beverage container deposit legislation. We believe that passage of such a measure would reduce litter, conserve nonrenewable natural resources, save energy, reduce solid waste, and promote a conservation ethic.

We urge you to do everything possible to ensure Congressional approval of national beverage container deposit legislation. If we can assist you in this effort, please let us know.

Thank you for considering our resolution.

Very truly yours,

William H. McBeath, M.D., M.P.H.,
Executive Director.

Enclosure.

American Public Health Association Resolution Adopted November 1981

MANDATORY BEVERAGE CONTAINER DEPOSIT LEGISLATION

The American Public Health Association, Recognizing that legislation requiring mandatory deposits on soft drink and malt beverage containers is a means of reducing litter, conserving non-renewable natural resources, saving energy, reducing sold waste, and promoting a conservation ethic; and

Noting that the states of Oregon, Vermont, Connecticut, Iowa, Michigan, Maine and Delaware have successfully enacted some form of beverage container deposit legislation; and

Affirming that experience in these states has shown that "deposit" laws are working;[1] and

Observing that "deposit" laws continue to be introduced in states without such legislation; therefore:

1. Strongly supports the enactment of mandatory deposit legislation in states where such laws do not exist; and
2. Supports the enactment of national beverage container deposit legislation.

REFERENCES

1. States' Experience with Beverage Container Deposit Laws Shows Positive Benefits. Report by the Comptroller General of the United States, Washington, DC: GAO, PAD 81-08, December 11, 1980.

Michigan National Recreation and Park Association,
Lansing, Mich., November 18, 1981.

U.S. Senator Robert Packwood,
Senate Office Building, Washington, D.C.

Dear Senator Packwood: I am writing in support of the proposed national beverage container mandatory deposit legislation being considered in the Senate Commerce Committee.

Enclosed is recent Detroit News coverage, November 6, 1981, of your hearings. I would like to reaffirm the success of the Michigan law.

The impact of reducing maintenance costs in our local, township, county and state parks has been monumental. The dollar estimates range but are comparable to the roadside figures quoted in your hearing by former Michigan Commissioner of Highways Peter Fletcher.

Michigan consumers have accepted the initial cost increases and any burdens of handling. Recent polls have indicated that business and industry support to place a referendum on the ballot to repeal this Act would fail by a larger margin than the overwhelming majority that initially approved this fine law.

I hope you will recognize and resist the inflammatory and distorted testimony used by opponents of this proposal. It was successful in defeating similar proposals in Ohio and Massachusetts. That victory really will be a losing effort in the long run for those States and this nation.

I invite the Commerce Committee to simply visit metropolitan Detroit for a few hours, to examine the freeway system for discarded bottles and cans.

One would assume from traveling around this country that America's 6th largest City would resemble the litter found elsewhere. As an example, a betting man would be very secure in offering a free dinner to any member of Congress that could find a six pack of discards in any 20 mile stretch of Detroit freeways!

Our support is simple. The Michigan deposit law works. The doom and gloom prophets were wrong about its negative impact, plus they have exercised a hidden option to amortize costs and pass them on to the consumers.

It is a small price to pay for clean freeways, ball diamonds, recreation areas and public parks. Congratulations for your introduction of this fine piece of legislation.

Sincerely,

JOHN F. GREENSLIT,
Executive Director.

NATIONAL ASSOCIATION OF CONVENIENCE STORES,
Falls Church, Va., November 20, 1981.

Senator BOB PACKWOOD
Chairman, Senate Committee on Commerce, Science, and Transportation, Washington, D.C.

DEAR SENATOR PACKWOOD: The National Association of Convenience Stores (NACS) is pleased to submit for the record these comments with respect to S. 709, the "Beverage Container Reuse and Recycling Act". A hearing on this bill was held by your Committee on November 5, 1981. Among other things, the bill would prohibit retailers (including convenience stores) for selling or offering for sale a beverage in a beverage container under pressure of carbonation unless the container bears a clear and prominent statement of the amount of refund value of such container, such amount being not less than five cents.

NACS is the trade association of the nation's leading convenience store chains and individual proprietors. NACS' membership includes approximately 800 corporate retail members, representing 35,000 convenience stores and 600 corporate associate members. NACS members can be found in virtually every state and congressional district in the United States.

On an industry average, sales of soft drinks and beer equal nearly one-third of a convenience store's total sales. Approximately half of the beverage sales are of beverage products in non-returnable containers. Therefore, a mandatory nationwide "bottle bill", as represented by S. 709, would have a staggering impact upon the convenience store industry. Accordingly, NACS' membership would be greatly affected by such a bill.

Because of the adverse effects that the convenience store industry would suffer as a result of S. 709, NACS opposes that bill. In this regard, the experiences of NACS' membership and others in states that have independently passed deposit laws reveal the following three primary adverse effects of such legislation:

Increased labor needs for handling and sorting returned containers;

Storage and sanitation problems related to the stockpiling of unclean cans and bottles returned to retail outlets; and

Decreased total beverage sales resulting from consumer resistance to paying deposits and returning empty containers.

Convenience store proprietors, in order to comply with the proposed law, would have to hire additional personnel simply to sort and store returned containers. In addition, a substantial amount of additional labor will be needed just to accept returnable containers and pay out deposits. These labor costs alone will amount to several thousand dollars per year for each individual convenience store outlet. Since so many convenience stores are manned by very few individuals at any one time, the proportional increase in labor needs will be quite significant.

The problems associated with the storage of returned cans and bottles are numerous. For example, most convenience stores, having relatively little inventory storage space to begin with, will either have to build additional storage space to accommodate the returned containers or replace portions of their inventory of full containers with returned bottles. The cost of additional storage space, especially in the current economy, can be hundreds of thousands of dollars even for a small store. To adopt the alternative of replacing inventory with old bottles would change the nature of a convenience store's business from a retailer of foods to a refuse warehouse.

An equally if not more severe problem related to the storage of returnables concerns sanitation. Although compliance with "bottle bills" dictates that convenience stores install and rely upon special cleaning equipment, the cleaning equipment obviously is not used until the containers have already reached the store. Since it is virtually impossible to isolate the incalculable kinds of vermin with which so many unclean cans and botties are infested before these bottles reach a store's sorting and handling area, the viability of the store's entire sanitation program is threatened.

Finally, stores in states having "bottle bills" have experienced decreases in total beverage sales. The reason for this decrease are numerous. First, because of the decrease in inventory resulting from the need for increased warehouse storage space for returnables, convenience stores are unable to offer the product variety to which consumers have become accustomed. Further, consumers object to paying higher beverage prices which reflect the added deposit. Consumers also find that returning containers, in order to be reimbursed for the deposit they have already paid, is most inconvenient. Certainly, the worst thing for a convenience store business is inconvenience.

All of the above effects translate into increased costs of doing business, which retailers must ultimately pass on to consumers through higher food prices.

Mandatory deposit legislation has been considered in virtually every store legislature, yet very few states have enacted such laws. Most states that have considered such proposed legislation have rejected it for the reasons discussed above and others.

While the principal aims of beverage container legislation—litter reduction and energy savings—are certainly desirable, NACS firmly believes that the limited benefits of such a law in these areas would not justify the expense and distruption in the food retailing industry and the ultimate inflationary impact that such a law is certain to create.

We appreciate this opportunity to comment and would be pleased to provide the Committee with additional information as it deems necessary.

Sincerely,

HARRY C. HUNTER,
Executive Director.

January 26, 1978

THE ECONOMICS OF FEDERAL MANDATORY-DEPOSIT LEGISLATION: STATEMENT SUBMITTED TO SENATE COMMERCE COMMITTEE

William M. Landes
Richard A. Posner

This study, which is submitted to the Senate Commerce Committee to assist it in its consideration of S. 276, a bill to impose a 5 cent mandatory deposit on all beer and soft drink containers sold in the United States, is adapted from a larger study of beverage-container regulation which we have prepared for the Glass Packaging Institute and the National Soft Drink Association. The authors are professor of economics and professor of law, respectively, at the University of Chicago Law School; our curricula vitae are attached to the end of the study.

Briefly, our conclusion is that there is no persuasive economic case for imposing a 5 cent mandatory deposit requirement on beverage containers. This conclusion emerges from an analysis of the costs and benefits of such a requirement. We begin with costs.

I. The Costs of Mandatory Deposit Regulation to Consumers

In order to understand our method of estimating the cost to the consuming public of a nationwide 5 cent mandatory deposit law, it is first necessary to understand the basic demand and supply characteristics of the container market.

A. The Demand for and Supply of Nonreturnable Beverage Containers

The growth over time, and the substantial variation across states, in the share of cans and nonreturnable bottles in the soft drink market[1] are documented in Tables 1 and 2.[2] Nonreturnables (cans and bottles) now comprise more than 55 percent of the home market compared to about 23 percent in 1966, and their shares in 1974 ranged from a high of more than 90

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[1] Although our analysis focuses on containers of soft drinks, there is no reason to believe the results would be different if it were expanded to include beer, the other major industry which uses nonreturnable beverage cans and bottles.

Table 1

Percentage of Nonreturnables (Gallonage Basis), Soft Drink Home Market, Nationwide

1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
22.6	30.3	36.6	45.7	54.3	56.4	56.7	56.6	57.4	55.7	55.4

Source: Coca Cola U.S.A.

Table 2

State Variations in Percentage of Nonreturnables, Products Produced by Coca Cola U.S.A., 1974

	9-20%	21-40%	41-60%	61-80%	81-98%
Number of States	2	11	19	9	8
Average Earnings	$5,373	5,244	5,380	6,100	6,156

Sources: Coca Cola, and 1970 U.S. Census of Population.
Note: Data for New Jersey not available for 1974.

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[2] The data in Tables 1 and 2 are based on the home market of products produced by Coca Cola U.S.A. Home market sales account for about 57.5 percent of total soft drink sales, and a slightly lower percent of Coca Cola U.S.A. sales. Products produced by Coca Cola account for about 35 percent of soft drink sales in the U.S. The returnable-nonreturnable breakdown for Coke is comparable to estimates of the entire U.S. soft drink market. For example, estimates presented in a recent GAO report (Potential Effects of a National Mandatory Deposit on Beverage Containers, Dec. 7, 1977) show a slightly higher share of nonreturnables (about 5 percent) for the years 1967, 1971, and 1976 (compare Table 2 of GAO report with Table 1 of this report).

percent in some states to a low of 9 percent in others.[3]

What are the underlying forces that shape the market demand and supply for nonreturnables relative to returnables?

Clearly, if two commodities are perfect substitutes, consumers will choose between them on the basis of price. For both to exist simultaneously in the market either (1) their prices must be equal or (2) their full prices (a concept we define below) must vary among consumers such that the first is cheaper than the second to some consumers while the second is cheaper than the first to others.

This way of looking at prices is highly relevant to an analysis of the soft drink market. The full price to a purchaser of a soft drink in a returnable bottle includes both the store price (net of the deposit) and the costs associated with the return of the bottle.[4] These latter costs include, among others, the value of the consumer's time, direct costs (e.g., gasoline), the costs of storage during the interval between consumption and return, and inconvenience costs (e.g., the extra weight of returnable bottles and breakage problems). Because consumers attach different costs to the return of a bottle, the full price of a returnable will vary among consumers. Those who place a relatively low value on the return process can be expected to opt for returnables while those placing relatively high values on this process will choose nonreturnables. Put differently, although the store price of a returnable (net of deposit) is less than that of a nonreturnable, the full price of the former will be greater than the latter, provided the costs associated with returning the bottle are sufficiently large.

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[3] Table 2 includes Oregon and Vermont where, as a consequence of mandatory deposit legislation, nonreturnables comprise only about 9 and 16 percent, respectively, of the state market. Were it not for this legislation, no state would have been in the below 20 percent nonreturnable category in Table 2.

[4] See Paul Schnitzel, The Consumption Effects of Mandatory Beverage Container Deposit Legislation, 20 Am. Economist 24 (1976). The statement in the text is a slight oversimplification since purchasers lose the services yielded by the money deposit during the interval between purchase and return, and in the event, for example, of breakage may forgo the deposit entirely. We have put these features to one side since they do not affect the substance of our analysis.

The concept of full price has important implications for market behavior. It suggests, for example, that in areas where consumers' time costs are high, as approximated by the area's average wage rate, nonreturnables will have a large share of the soft drink market. Similarly, the growth in real wage rates in the U.S. economy implies an increasing value of time, which in turn should generate a growing demand for nonreturnables relative to returnables. Both the over-time and across-state variation in the share of nonreturnables (see Tables 1 and 2 and footnote 3) are consistent with this hypothesis.

To take a less obvious example, consider the impact of the growing labor force participation of women, particularly of married women in the U.S., on the demand for nonreturnables. The proportion of married women in the labor force today is about 45 percent compared to 22 percent in 1948. Since participation in market activities reduces the availability and hence increases the value of nonmarket time, the working woman attempts to economize on time by substituting towards less time-intensive consumption items. This may explain in part the declining birth rate in the U.S. (since raising children is a very time-intensive activity), the growing demand for fast food restaurants and TV dinners as well as for a variety of household items that economize on time (dishwashers, freezers, garbage compactors, etc.)--and the increasing share of nonreturnables in the soft drink market.

Thus far we have been discussing factors relating to the demand for nonreturnables versus returnables. The supply of any product depends on the cost of production, which in turn is a function of the underlying technology and the prices of the various inputs used in the production process. The technology of returnables is relatively labor-intensive compared to that of nonreturnables, mainly because of the additional labor involved in handling and transportation from the retail outlet to the bottler. Consequently, an increase in wage rates will increase the costs and hence the price of returnables relative to nonreturnables, which will lead consumers to substitute nonreturnables for returnables.

The fact that nonreturnables are lighter has another implication for costs. Lighter bottles mean lower transportation costs, which tend to reduce the cost advantage of local bottlers and enable firms to take advantage of economies of scale in production, leading in turn to a reduction in the relative price of nonreturnables and hence to a consumer shift toward them. In addition, reducing transportation costs increases the size of the firm's market. The possibility of a local monopoly is less, because it is now feasible to ship goods to the local market from more distant areas. The beneficiary of an expansion in the size of a market is the consumer who now obtains goods at lower prices. This point is amplified in Part IV of this statement.

A final point that bears on costs is trippage. Trippage--the average number of times a returnable bottle is used--is positively related to the probability that the returnable is in fact returned. For example, if the probability of return is .9, one bottle, through reuse, will provide nearly ten bottles of soft drinks. If, however, the probability of return is .5, one bottle must be produced for every two bottles of soft drink consumed. As Table 3 indicates, estimates of trippage show a gradual decline over time, from 19.2 in 1955 to 9.8 in 1973.[5] Consequently, the cost and price of returnables have risen because more bottles must be produced for an unchanged quantity of soft drinks in returnable bottles. Consumers have responded to this relative price change by shifting towards nonreturnables, thus increasing the share of nonreturnables in the soft drink market.

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[5] To our knowledge, nationwide trippage statistics do not exist (though some bottlers may occasionally prepare trippage estimates in selected markets).

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5 continued

Research Triangle Institute in its October 1975 study for the FEA (hereinafter FEA study) developed an econometric stock-flow model to estimate trippage from data on bottle shipments and total fillings. It is these estimates, which have been included in the recent GAO report (p. 13) and have been used by proponents of mandatory deposit legislation as a basis for estimating the likely level of trippage if nationwide legislation were adopted, that we have used in Table 3. Although the FEA model is generally valid for estimating trippage in the 1947-1973 period, it has serious drawbacks (as we explain later) for projecting trippage in the event of a nationwide mandatory deposit law. We briefly set out the stock-flow model here and then return to it later.

Let B_t = stock of refillable bottles at time t, λ_t = average number of trips per refillable bottle per year, δ_t = proportion of refillable bottles not returned or lost in t, and F_t = total fillings in t. We have

$$B_t = F_t/\lambda_t \qquad (1)$$

and

$$\Delta B_t = F_t/\lambda_t - (1-\delta_t)B_{t-1} \qquad (2)$$

where ΔB_t = new shipments of bottles in t. By rearranging and noting that $B_{t-1} = F_{t-1}/\lambda_{t-1}$, we have

$$F_t = \lambda \Delta B_t + (1-\delta_t)F_{t-1} \qquad (3)$$

assuming that $\lambda_t = \lambda_{t-1}$. Equation (3) can be estimated from published data on fillings and refillable bottle shipments, and the regression coefficient on F_{t-1} can be converted into an estimate of average trippage. Since $(1-\delta)$, the survival rate of bottles, can be written as

$$(1-\delta) = P^{\lambda}, \qquad (4)$$

where P = the probability of return per purchase, trippage T, is

$$T = 1/(1-P) = 1/(1-(1-\delta)^{1/\lambda}). \qquad (5)$$

Thus, given estimates of λ and δ from (3), one can compute trippage.

The problem with this procedure, which is recognized by the authors of the FEA study, is that it yields a single trippage value for the entire period. To obtain a trippage rate that varies with time, one must have a theory of the determinants of trippage. The FEA study postulates that $(1-\delta_t)$ is a linear function of real per capita income. The basis of this formulation is the theory that the survival rate will decline as the value of time (approximated by real per capita income) rises. Thus,

Table 3

Soft Drink Trippage Statistics, 1955-1973

Year	Trippage	Year	Trippage	Year	Trippage	Year	Trippage
1955	19.2	1960	18.1	1965	14.3	1970	11.6
1956	18.6	1961	17.7	1966	13.5	1971	11.2
1957	18.6	1962	17.0	1967	13.0	1972	10.6
1958	18.7	1963	16.5	1968	12.4	1973	9.8
1959	18.1	1964	15.3	1969	12.1		

Source: Research Triangle Institute Study for FEA, 1975.

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5 continued

$$(1-\delta_t) = a + bY_t \qquad (6)$$

where Y_t is real per capita income, which by substitution into (3) yields

$$F_t = \lambda\Delta B_t + aF_{t-1} + b(Y_tF_{t-1}). \qquad (7)$$

Equation (7) is then estimated by ordinary least squares, and an estimate of trippage that varies with Y can be computed. These estimates are the ones reproduced in EPA reports and the recent GAO study.

There are numerous problems (not noted in the FEA study) with trippage estimates from equation (7). We list a few.

1. The presence of a lagged dependent variable (F_{t-1}) as an independent variable creates an unknown bias in the estimates of a and b in (7) and hence of $(1 - \delta)$. This is widely recognized in the econometric literature though no alternative estimation procedure has been shown to be "better" than ordinary least squares.

2. No confidence intervals are presented for the trippage estimates nor is there any awareness that the estimates are probably subject to substantial statistical error. The latter arises from the fact that the standard error of trippage depends on both the standard errors of δ and λ (which are known). Moreover, it is not clear to us how one would compute the standard error of trippage since we would have to compute the standard error of $(1-\delta)$ taken to the $1/\lambda$ power.

3. On a conceptual level there is no reason to assume that an increasing time value will affect δ_t but not λ—the latter is likely to fall as the value of time rises because consumers will reduce the number of trips to the retailers per time period.

4. The theory predicts that persons with higher time costs will shift toward nonreturnables. Thus, as per capita income rises, the group of consumers purchasing returnables will be mainly those from the lower tail of the income distribution. Therefore, as average income rises, the value of time of persons continuing to purchase returnables may not change at all. This suggests that trippage may not decline as average income rises though the proportion of families purchasing returnables may decline sharply. This has implications for using equation (7) to estimate trippage in the presence of a nationwide mandatory deposit law. We return to this question later.

It is sometimes alleged that producers have an incentive to discourage the return of returnables. As the above analysis makes clear, this is tantamount to arguing that producers prefer higher to lower costs and lower to higher profits!

Supply and demand provide a compelling explanation for the nonreturnable phenomenon. Is there any other possible explanation? It has been suggested that the growth of nonreturnables is due to some form of brainwashing. The argument is that advertising has instilled a "throw-away" mentality in consumers. This argument is difficult to accept in the face of increasing evidence that advertising plays a genuine and important informational role in the sale of goods and services.[6] The rise of advertising (like the rise of the nonreturnable itself) has been linked with the increasing value of the consumer's time, which leads him to substitute advertising for store-to-store search as a means of informing himself about products. It has also been shown that advertising increases with the amount of competition, which rebuts the manipulation hypothesis by showing that advertising is more effective in getting consumers to try something new than in wedding them to the old—advertising opens, not closes, the consumer's eyes.

At a time when economists could assign no economic function to advertising despite the billions of dollars that producers were spending on it, it was natural to regard it as a sinister force that was "brainwashing" consumers to buy products they didn't really want. Now that advertising has

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6. See, e.g., a series of articles by economist Phillip Nelson: Information and Consumer Behavior, 78 J. Pol. Econ. 311 (1970); Advertising as Information, 82 *id.* 729 (1974); The Economic Consequences of Advertising, 48 J. Bus. 213 (1975), and also the essays collected in Advertising and Society (Yale Brozen ed. 1974).

been shown to be a means of informing rather than manipulating consumers, the brainwashing hypothesis is increasingly untenable.

Yet even if it were denied that advertising had an informational role or content, but operated solely to manipulate the unconscious of the consumer, it would not follow--it would not even be plausible--that advertising would cause wholesale shifts in consumer preference. Such a theory would ignore competition among the producers who were advertising. However advertising works on the consumer, advertisers in competitive industries will be pulling the consumer in different directions rather than conveying a monolithic message. Concretely, if one group of advertisers is using the manipulative techniques of Madison Avenue to persuade consumers to buy beer or soft drinks in nonreturnable containers, another will be trying to persuade the consumer to buy them in returnable containers (assuming there is some basis for thinking the consumer is persuadable in that direction). There is no reason to believe that one group of advertisers will be more effective in its use of advertising techniques, especially over the long run, than another; so if we observe--as we have observed--a steady trend toward the nonreturnable, it is difficult to attribute this to the effects of advertising.

To this critics of advertising may reply that advertising, taken as a whole, has created a "throw-away" culture or ethos in which nonreturnables are preferred precisely because they are a wasteful packaging method. But advertising is not a monolithic force for consumption--savings institutions advertise the merits of thrift and saving. And even if the net impact of advertising were to encourage consumption, that would hardly lead consumers to prefer nonreturnables regardless of their costs and benefits. On the contrary, with the advertising community competing so vigorously for his dollar and offering him such an abundance of consumption opportunities, the consumer would be on the lookout for areas where he could free up additional dollars for consumption by achieving economies, e.g., in packaging.

Further evidence to support the supply-demand hypothesis regarding the growth of nonreturnables is obtainable by using multiple regression techniques to explain differences across states in percentage of nonreturnables and by including in the regression equation variables expected to affect the demand for nonreturnables relative to returnables. The supply-demand hypothesis predicts that the share of nonreturnables in a state will be positively related to average earnings (a proxy for the value of time) and to the labor force participation rate of women, and negatively related to the ratio of the store price of nonreturnables to that of returnables.

The results of the regression analysis, which are presented in Table 4, strongly support our hypothesis. The share of nonreturnables is positively and significantly related to earnings.[7] Labor force participation of women has a positive and marginally significant effect on the share of nonreturnables. The relative price of nonreturnables (the PRICE variable in equation (2)) is also highly significant and in the predicted direction.

The regression analysis enables us to test empirically (and reject) the hypothesis that the growth of nonreturnables is due to some form of brainwashing and manipulation by advertisers and not to the demand and supply factors discussed above. We do this by including the average years of schooling completed in a state as an independent variable in the regression equation.

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[7] A t-statistic (in parentheses in Table 4) of 1.96 or greater, which we term significant, indicates that there is a 2 1/2 percent or less chance that the variable in question is not significant.

Table 4

Regression Coefficients and T-Statistics (in Parentheses)
for the Share of Nonreturnables Across States, 1971

	Independent Variables					
Equation	EARN	LFP	SCH	PRICE	CONSTANT	R^2
(1)	.012 (3.299)	1.299 (1.839)	3.306 (1.428)		-109.122 (3.596)	.43
(2)	.010 (2.849)	1.069 (1.596)	3.453 (1.560)	-9.382 (2.422)	-44.769 (.467)	.49

Notes:
1) The dependent variable is the share of nonreturnables (cans and bottles) in the home market for Coca Cola and allied products in 1971.
2) EARN = average earnings in state (1970 U.S. Census).
3) LFP = porportion of women over 16 years of age in labor force (1970 U.S. Census).
4) SCH = median school years completed (1970 U.S. Census).
5) PRICE - estimated ratio of price of nonreturnables (weighted average of price per ounce for 12 oz. cans and 10 oz. bottles) to price of returnables (per ounce of 10 oz. bottles). Estimated from selected city data for products produced by Coca Cola.

To the extent that "brainwashing" exists, presumably it will be relatively less successful in inducing the purchase of nonreturnables the more educated the consumer is.

The brainwashing hypothesis implies that the share of nonreturnables will fall as the level of schooling increases. The supply and demand hypothesis implies the opposite. It has been well documented in the economics literature that years of schooling is an important positive determinant of earnings. Thus, our schooling variable will also capture some component of the value of time and should, by our earlier analysis, be positively rather than negatively correlated with the share of nonreturnables in a state.

The regression coefficient on the schooling variable in Table 4 is positive and marginally significant in both regressions. This is inconsistent with the "brainwashing" hypothesis and leads us to reject it as an explanation of the nonreturnable phenomenon. In contrast, the positive coefficients on schooling are consistent with the supply-demand theory, which relates increases in the share of nonreturnables to increases in the value of time.

B. The Costs to Consumers of Regulating Nonreturnables Through a 5 Cents Mandatory Deposit Law

Our analysis of demand and supply has important implications for the costs of mandatory deposit legislation. Advocates of such legislation typically point to the savings to consumers as one of its benefits. They reason that since the price of a returnable (net of the deposit) is less than that of a comparable nonreturnable, a switch to nonreturnables will yield savings to consumers. As pointed out above, this view is economic nonsense. The growth of nonreturnables is in response to consumer demands. Hence legislation that attempts to bring back the returnable bottle will, if successful, impose losses, not gains, on the consuming public. It is refreshing, therefore, to find in two recent studies that advocate mandatory deposit legislation (the GAO report and the Research Conservation Committee staff's Background Paper No. 2) a recognition that "inconvenience" costs are a major cost of this legislation and must be compared with its benefits. We fully agree. These reports, however, go on to suggest that there is no way to measure the costs of inconvenience. This is incorrect.

In estimating the "tax" to consumers from the loss of inconvenience due to a nationwide mandatory deposit law, we use data from the GAO report on projected beverage fillings (both beer and soft drinks in 12 oz. equivalents) in 1981 by container types (see Table 5 below). The GAO selected 1981 to allow for a phase-in period for the nationwide law.

Three container mixes are presented in Table 5. The first assumes no law while the second and third (labeled Mix I and Mix II) are alternative estimates of the container mix given the law. Both Mix I and II assume that nonrefillable bottles will disappear after the law takes effect. Initially, we make the following additional assumptions: (1) a deposit of 5 cents is required on all containers; (2) the return rate of bottles equals .9— in other words, trippage is 10 (GAO report, p. 17); and (3) the return rate on cans equals .8, i.e., trippage is 5 (id.).

Table 5

Total Beverage Fillings (12 oz. equivalents)
in Billions by Container Type, 1981

	No law	Mix I	Mix II
Refillable bottles	29.3	58.1	97.8
Nonrefillable bottles	28.8	-	-
Cans	64.1	64.1	24.4
Total	122.2	122.2	122.2

Source: GAO Report, Table 3.

Suppose that prior to the law the price of a nonreturnable bottle is 25 cents, the price of a returnable (excluding the deposit) is 23 cents, and the deposit is 5 cents.[8] After the imposition of mandatory deposit legislation, consumers switch to returnables. For those who switch and return, the full price (including the loss of convenience) is greater than 25 cents (otherwise, they would have purchased returnables prior to the law) but less than 28 cents (i.e., they pay a net store price after returning the bottle of 23 cents plus a time cost greater than 2 but less than 5 cents). Assuming a uniform distribution of time costs to those who now return, this would yield an average loss in convenience due to mandatory deposit legislation of 1.5 cents per beverage (i.e., the cost of the beverage rises on average to 26.5 cents). The loss to those consumers who fail to return the container would equal 3 cents (i.e., their costs of beverage rise from 25 cents, the nonreturnable price prior to the law, to 28 cents).

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[8] It is the price differential between returnables and nonreturnables that is essential for the analysis, not the precise prices used in our example.

Suppose the price of a beverage in a nonreturnable can is 25 cents prior to the law and 30 cents (25 cents plus a 5 cents deposit) after the passage of the law. Again, for those returning the cans, the average loss will approximate 2.5 cents per can, while for those not returning the can the loss will be 5 cents per can.

In order to estimate the total losses from mandatory deposit legislation one would have to multiply the 1.5, 2.5, 3 and 5 cent losses by the appropriate number of beverages consumed in each category. Using Table 5, we proceed as follows. The projected number of nonreturnable bottles without a law amounts to about 28.8 billion in 1981. Assuming a 90 percent return rate, the total annual loss to these consumers who switch from nonreturnable to returnable bottles would equal $475 million (1.5 cents times 25.92 billion plus 3 cents times 2.88 billion). For those purchasing cans (Mix I), and assuming an 80 percent return rate, the total annual loss would equal $1.92 billion (2.5 cents times 51.28 billion plus 5 cents times 12.82 billion). The total loss to consumers, therefore, equals approximately $2.4 billion in 1981. Assuming that Mix II is the correct container mix the total loss to consumers would equal $1.86 billion.

Our estimates of the loss to consumers are net of the gross savings to consumers from a lower store price. Put differently, the total inconvenience cost equals \$1.86 to \$2.4 billion plus the savings to consumers from the lower store price (net of deposit) of returnables compared to nonreturnables.

The above estimates are obviously crude for several reasons.

(1) They depend on the accuracy (which is not known) of the GAO-projected estimates of total fillings and container mixes.

(2) Some account should be taken of the likely reduction in trippage,[9] which will raise the cost of returnables compared to their costs prior to the imposition of mandatory deposit legislation. This factor will tend to increase the total loss to consumers.

(3) The likely reduction in demand for beverages as a consequence of mandatory deposit legislation must also be considered. The greater the elasticity of demand, the greater will be the reduction in the quantity demanded of beverages and the lower will be the total loss to consumers. In this instance, the loss in sales to producers will be greater.

(4) To the extent that some consumers fail to return containers, the

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[9] Our estimates of the tax effect of a federal mandatory deposit law utilized return rates of .9 and .8 for bottles and cans respectively that were based on the FEA study of trippage described earlier. Although the method used in that study to estimate trippage is generally valid for the period up to 1975, it cannot be used to project what trippage will be after the imposition of a mandatory deposit law. It is based on existing statistics of fillings and bottle shipments and reflect the behavior of consumers who choose returnables. As any economist will recognize this is a biased sample. Consumers currently purchasing returnables are precisely those who attach a relatively low cost to the return process and a relatively low value to the convenience of nonreturnables. That is the reason these consumers have opted for returnables! A mandatory deposit law will have the effect of shifting the high-time-cost and high-convenience-value consumer to the returnable market. These consumers will tend to have a lower trippage rate. Therefore, a mandatory deposit law should lower the average trippage rate compared to the rate projected for consumers who voluntarily purchase returnables. Specific techniques to take account of this bias can be developed. For example, there have been efforts to account for similar biases in the econometric literature that measures the value of time of persons not in the labor force, in particular, married women. We believe that the methodology used in those studies could be applied to the trippage question, if it were desired to obtain more accurate trippage estimates.

revenues of bottlers will rise by the amount of the deposit times the number of containers not returned. This in turn will lower the expected marginal costs of producing returnables and may ultimately lead to a lower price to the consumer of returnables. Since our analysis assumed no change in the nominal price of returnables, we would then be overstating the total tax effect or cost to consumers of a deposit law. On the other hand, as mentioned above, we expect trippage to decline as a result of the deposit law because consumers with higher time costs of return will be purchasing—but not always returning—returnables. This will raise the per-unit cost to bottlers of producing returnables and lead to a higher price to consumers for returnables. We have not taken this factor into account in our empirical estimates, but to do so would increase our estimates of the costs of a deposit law. Since the two effects (lower price and lower trippage) both arise from nonreturns of returnables and hence are likely to offset each other, our initial estimates of the costs to consumers from the imposition of a mandatory deposit law should remain substantially correct.

Despite the above qualifications, our crude attempt suggests that it is both possible to measure inconvenience losses and that these losses are likely to be substantial. Further refinements would alter the precise value of the estimates but we doubt that such estimates would lie outside the $1.5 to $2.5 billion range. At the very least, the magnitude of the estimated "tax" compared to the claimed benefits suggests the need for further economic research of professional quality before one can make a responsible policy recommendation on the question of the desirability of a federal mandatory deposit law.

A final and difficult-to-quantify cost to the consuming public of a nationwide mandatory-deposit law is the likely reduction in the variety of container sizes. To reduce the handling and reuse costs of returnable bottles, producers will reduce the variety of available container sizes. Some evidence on this point can be obtained from the existing distribution of returnable and nonreturnable bottle sizes, shown in Table 6.

Table 6
1976 Size Mix of Bottles

Bottles	Under 8 oz.	8-12 oz.	16 oz.	28 oz.	32 oz.	48 oz.	64 oz.	1 and 2 liter
Returnables	1.8%	13.0%	50.8%	3.1%	28.9%	.7%	.4%	1.8%
Nonreturnables	.3%	11.6%	21.1%	17.2%	12.9%	6.9%	29.0%	.7%

Source: A.C. Nielsen Co. Report to Glass Packaging Institute on Carbonated Beverages, June-July 1977.

Table 6 shows that greater variety is available in nonreturnable bottles. For example, 80 percent of returnables are produced in two size classes (16 and 32 oz.) while only 50 percent of nonreturnables are in two classes (16 and 64 oz.). Moreover, one has to combine four size class of nonreturnables (16, 28, 32 and 64 oz.) to reach an 80 percent share of nonreturnables. We have not attempted to assign a dollar cost to this likely reduction in variety from the imposition of a nationwide mandatory deposit law. Nevertheless, it is a real and potentially substantial cost to consumers.

II. Alleged Benefits of Mandatory Deposit Laws

A. Consumer Welfare and Energy Effects

It is alleged that the prices paid by consumers for containers would be lower if mandatory deposits resulted in a switch to returnables, because returnables, while more costly to produce initially, are cheaper on a per-use basis (assuming reasonable trippage). We have already shown the fallacy in this argument: only nominal, and not full, prices are considered. When full price, including consumer convenience—just as real a cost in economic analysis as the nominal prices which producers charge—is considered, it becomes plain that consumer welfare will be diminished by a forced substitution of returnables for nonreturnables. Indeed, this is a major social cost of mandatory deposit legislation.

A second area of alleged economic benefits from such legislation is energy savings. Because it is assumed that fewer containers would be produced if returnables were substituted for nonreturnables, it is concluded that the amount of energy used by the container industry would be reduced. Rather than criticize the details of these calculations, we shall make three fundamental points which vitiate the energy argument.

1. The alleged energy saving results not from the substitution of other inputs for energy in the production of containers, but solely from the reduction in the size of the container industry. However, the idea of saving energy by reducing production is absurd—it would justify the government in throwing the economy into a recession! Moreover, short of economy-wide production declines, as in a general recession, reducing output in one industry will not reduce energy consumption unless the industry is unusually energy-intensive, and may increase it. The resources freed up by cutting back production in one industry will gravitate to other industries, whose output and hence energy inputs will rise. Thus, in order to determine whether a given industry's output reduction will result in a net energy saving, we need to know what will happen to the resources now used in the industry that will shift to other industries. None of the studies which find energy savings from container restrictions have addressed this question, and their estimates are consequently meaningless.

As a specific example of how container restrictions could actually boomerang from an energy-savings standpoint because of substitution effects, it has been suggested to us by an official of the Council on Wage and Price Stability that such restrictions might result in a substitution of aluminum cans for glass bottles. The high handling and reuse costs, and the low trippage rate in many parts of the country, may make the production cost of a returnable bottle quite high relative to that of nonreuseable containers, and especially of the aluminum can, which has substantial scrap value. The economics of mandatory deposits might therefore favor aluminum cans over glass bottles—why else has Alcoa decided to support mandatory deposit legislation? If so, the demand for aluminum may rise. But the production of aluminum is far more energy-intensive than the production of bottles. True, the supply of aluminum will also be greater because more aluminum cans will be returned, but there is no presumption that the supply increase will match the demand increase (it would do so only if 100 percent of the aluminum in a can could be reclaimed). In addition, any switch to aluminum cans from glass bottles would involve the substitution of a scarce raw material (bauxite) for a plentiful one (sand).

2. Even if container restrictions were certain to involve a net energy saving—and, as we have seen, not only is this uncertain, but there could be a net energy increase—it does not follow that any economic benefit would be conferred on society. The conservation of raw materials or other factors of production, even scarce ones, is not an economic goal as such. The economic goal is to get as much value as possible out of our scarce resources and this is done by assuring that the price of each resource equals its costs, including the foregone benefit to future demanders of consuming it today rather than leaving it in the ground for future development. If a resource is scarce in

the sense that it is being rapidly depleted, this argues for a high price which will limit present consumption and leave more for the future. And in a free-market system conservation through high prices is achieved automatically, without need for public intervention. Resource owners, perceiving that they can get more money by retaining the resource rather than selling it immediately, will hold it off the market and as a result the amount available for present consumption will fall and price therefore rise.

To this it may be replied that there is no free market in energy and hence the market cannot be relied upon to bring about the efficient balance between present and future consumption. But while it is true that there is rampant public intervention in energy markets, this would be relevant only if the net impact of that intervention was to depress current prices below the levels that would prevail in the free market; then there would be a case for intervention designed to raise those prices or, if that were infeasible, to limit current consumption by other methods. But of course the very opposite is true. Dominating all those government policies which may have depressed current prices (especially in the natural-gas industry) is the action of the OPEC producers in having raised the price of oil, the world's most important energy source, far above the free-market level. As a result of OPEC pricing, the price of fuel is artificially high rather than low, even in the U.S., which has tried to depress gasoline and other fuel prices in various ways. Another factor pushing up the market price of energy is the use by virtually all countries (and U.S. states) of gasoline as a source of tax revenues.

There is no basis for concluding that energy is underpriced relative to its true costs, including the opportunity costs resulting from its depletable character. On the contrary, it is almost certainly overpriced. It is thus perverse to defend on economic grounds a policy of reducing energy production.

3. Even if there were economic grounds for seeking to reduce energy use, it would be arbitrary to the point of frivolity to do so by intervening in the market for beverage containers. Even advocates of beverage-container restrictions anticipate no more than a one in three hundred or five hundred reduction in the nation's energy consumption, and this only after several years of transition. Such estimates are no doubt too high, for the reasons explained under 1 above, but even taken at face value they are trivial relative to the disruption to consumers and producers alike that national mandatory deposit legislation would cause. The nation's energy policy should focus on the heavy users of energy. Hundreds of programs no less intrusive than mandatory deposit legislation would be necessary to produce a significant impact on the nation's energy consumption by intervening in industries, such as the container industry, which are only minor energy users.

B. The External Costs of Container Regulation

The strongest economic case that has been made for placing restrictions on nonreturnable containers in the form of a mandatory deposit requirement is that it is necessary to correct certain externalities that are involved in the production and sale of such containers.

1. An "externality" is a cost (or benefit--but that is not relevant here) that does not enter into the calculations of producers or consumers of the product responsible for the cost, with the result that too much of it is produced. For example, if an automobile factory emits smoke which damages the laundry of households near the factory, this damage cost will not be reflected in the price of automobiles. That price will therefore be lower than the full

costs of producing automobiles (which includes the smoke damage), and as a result the production of automobiles will be carried farther than is optimal given those costs.

The traditional analysis of the externality question, sketched in the preceding paragraph, was thought to compel the conclusion that the factory should be taxed in order to reduce its production to the level it would be at if the factory took account of the smoke damage and priced automobiles accordingly. This is the "polluter pays" principle that is invoked so frequently in discussions of container regulation. If nonreturnable containers discarded as litter impose aesthetic costs that are not taken into account by the producers and consumers of those containers, then, it is argued, the "polluter pays" principle requires that a tax (e.g., in the form of a mandatory deposit requirement) be imposed on the producers of nonreturnables. Or, if these containers impose costs of solid-waste disposal that are not borne by their producers or consumers, because of the way in which solid-waste disposal is financed, again a tax on the producers is required in order to achieve the optimal level of container output.

What people making this argument fail to realize is that contemporary economic thinking on the externality questions has overthrown the "polluter pays" principle. In an article in 1960 Ronald H. Coase showed that the principle was wrong as a general guide to policy.[10] In the smoke example, it is incorrect to say, as the traditional analysts did, that the factory "caused" the smoke damage to the laundry. It would be equally accurate to say that the households "caused" the damage—by their proximity to the factory, by their failure to buy clothes dryers, or by their decision to buy clothes especially vulnerable to smoke damage. The real question for policy, in Coase's analysis, is who can eliminate or minimize the smoke damage at lower cost—the factory or the households? If the former, then a tax or equivalent (e.g., a liability rule) may be a worthwhile measure for reducing social costs. But if the households are better able to deal with the smoke problem, as they may well be, then it would be a mistake to tax the factory—it would be a less efficient solution to the smoke problem (assuming the factory could not feasibly negotiate with the households to induce them to solve the problem and thereby reduce its tax liability). The efficient solution in this case is not to tax the factory but to let the cost of the smoke damage lie where it falls, on the households, so as to induce them to take steps to avoid it, which they can do at lower cost than the factory. In short, the "polluter pays" principle is correct only when the polluter (the "cause" of the damage in a gross physical sense) is the cheaper cost avoider. If the "victims" of the pollution are the cheaper cost avoiders, the polluter should not be made to pay, since, to repeat, that would result in a less efficient solution of the pollution problem than if the pollution damage is allowed to lie where it falls, on the victims of the pollution.

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[10] The Problem of Social Cost, 3 J. Law & Econ. 1 (1960).

Coase's analysis, with its implication that the optimal pollution tax may in particular cases be zero, is now generally accepted by economists.[11] And Coase made another important point in his article that is also relevant here. He argued that the mere fact that a market is not working perfectly, because of the presence of monopoly or externality elements, is not a sufficient

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11. See William J. Baumol, On the Control of Externalities, 62 Am. Econ. Rev. 307 (1972).

ground for public intervention. Such intervention is not costless. Its costs must be balanced against the costs of allowing the market to operate, albeit imperfectly, without government intervention.

Obvious, indeed trite, as this point may seem, it was years before it was paid any serious heed. The 1960s were a period of rampant public intervention, occurring in an atmosphere of heady optimism regarding the curative powers of government. The costs of intervention were underestimated, indeed ignored. It is now clear in retrospect that government regulation is more costly and less effective (or more perverse) than was believed ten years ago: a large economic literature attests to the recognition of this fact by the economics profession.[12]

In the new atmosphere of realism concerning public capabilities, Coase's warning concerning the need to consider the costs as well as benefits of public intervention to correct market imperfections is being repeated by many economists, and must be kept in the forefront of attention in evaluating any proposal for government regulation of containers. Thus, it is not enough to identify an external cost in the market for beverage containers; to justify government intervention, the costs of intervention must be compared with the costs of the externality, and only if the former are lower than the latter is intervention warranted.

2. On the basis of the foregoing analysis, we may now consider the specific externalities that are alleged to justify placing restrictions on nonreturnable beverage containers through mandatory deposit laws such as S. 276.

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[12] See, e.g., William A. Jordan, Producer Protection, Prior Market Structure, and the Effects of Government Regulation, 15 J. Law & Econ. 151 (1972).

a. The clearest example of a genuine externality of container production and use is litter. Litter reduces the satisfactions that other users of roads, parks, etc. obtain and is thus a source of genuine costs. In the absence of some form of regulation, these costs will not be taken into account by the people who produce and use the containers, wrappers, and other products which are discarded as litter. The fact that there is a litter externality, however, does not lead logically to the conclusion that a tax of any sort should be placed on producers of containers, nonreturnable or otherwise. The logical gap between premise and conclusion is demonstrated by the following considerations:

(1) The costs of litter have never been measured. There are some estimates of quantities of litter, and all of us have our intuitive reactions, greatly varying in intensity, to the sight of litter in the park or by the roadside. But no attempt to estimate, however crudely, the dollar equivalent of the distaste for litter has ever, to our knowledge, been attempted.

(2) Various estimates have been made of the fraction of roadside litter accounted for by beverage bottles and cans and the reduction of litter that would result from implementation of various litter-control measures, including mandatory deposits. These estimates are subject, of course, to a large margin of error. What is more, generalizing from the experience of the two states, Oregon and Vermont, that were the first to adopt mandatory deposits to the rest of the country is perilous in the extreme. One would expect the first states adopting mandatory deposits for purposes of litter control to be precisely those states in which the expected response of litterers to the increased cost of litter resulting from mandatory deposit requirements would be the greatest—for those are the states that would derive the greatest benefits from imposing such requirements. Merely because raising the cost

of litter by 5 cents to residents of Oregon and Vermont may have resulted in a substantial diminution in roadside litter, it does not follow that a similar cost increase will have the same effects elsewhere. Residents of other states may be considerably less sensitive to such a tax than residents of Oregon and Vermont, states that already had a strong conservationist ethic. Mandatory deposits might be an ineffective method of litter control in other states. And, of course, even if totally effective it would deal with only a fraction of the litter problem.[13]

(3) The magnitude of that problem varies greatly among different states. It is probably greatest in states like Vermont and Oregon which feature natural beauty as a major tourist attraction; the opposite extreme would be represented by the District of Columbia. Since states and areas differ in litter costs, a uniform national program of litter control is prima facie inappropriate.

(4) Producer controls are only one possible method of reducing litter and no one knows whether they are the most efficient method. One alternative would be to increase the resources devoted to deterring littering through fines. While it is widely believed that merely increasing the penalty would be ineffective because of reluctance of judges and juries to impose heavy penalties for littering (itself a testament of the different values that people attach to a litter-free environment), that is not the only alternative; another is to increase patrol and other activities designed to apprehend litterers. The costs and benefits of this approach to litter prevention must be compared with those of mandatory deposit legislation before the

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[13] 13. Only 0.16 percent of the total solid-waste stream is composed of cans and bottles. See Frank A. Smith and Charles Rhymer, Waste Age Magazine, April 1976, pp. 8, 29.

latter can be pronounced superior; this has never been done. We are surprised that advocates of the "polluter pays" principle do not prefer to control litter through fines or other measures directed against litterers, since it is the latter who are the polluters. Most consumers of nonreturnable beverage containers do not discard them as litter, yet under a mandatory deposit law they are forced to bear part of the costs imposed on society by litterers.

Still another alternative would be to devote greater resources to litter pick-up. Once again, there is no evidence that this alternative is inferior in terms of costs and benefits to mandatory deposit laws.

(5) Some students of the container regulation problem believe that the production of containers involves another externality besides litter—solid-waste disposal. The argument is that the costs of solid-waste disposal, in landfill acquisition, environmental damage, and other respects, are not fully reflected in the charges levied by garbage collection services on their customers. It is suggested that measures like mandatory deposits which would reduce the number of containers discarded as garbage would bring the amount of garbage nearer to the level it would be at if the price of garbage collection were closer to its full cost.

The first thing to note in evaluating this argument is that there is nothing inherent in the nature of garbage collection and disposal that requires that the system of pricing it fail to cover its total costs and so generate external costs. A private garbage service which entered into contracts with households and businesses for the collection and disposal of their garbage would perforce charge its customers a price equal to the full costs of the collection and disposal service, including landfill acquisition and compliance with any applicable pollution-control requirements. There would then be no external costs of garbage collection and disposal and accordingly no basis in economic theory for placing a tax on producers of containers or of any other component of the solid-waste stream. Further, there is no economic reason why the garbage collection and disposal business should not be private. The experience in municipalities that have completely private systems of garbage collection and disposal with free entry suggests that the business is not a natural monopoly, unlike electrical-power distribution or telephone service where one firm can supply the entire demands of the market at lower cost than more than one firm. Garbage service is probably no more a natural monopoly than taxi service, or newspaper or milk delivery. And even it if were, the standard response in this country to natural monopoly is to regulate rather than nationalize it; and a regulated firm has a right to set a charge that covers its full costs--hence any externality is avoided. Moreover, to the extent that regulation fails to compress a monopolist's profits to its costs, the resulting price will be even less likely than a competitive price to be below the full costs of the service.[14]

The only thing that gives the externality argument any plausibility is the fact that much garbage service in this country is provided by municipal corporations (or municipally franchised private corporations) that do not charge a price for the service that is equal to its full costs but instead run a substantial deficit that is made up out of tax revenues. This, of course, is inefficient and should be changed. But the fact that government at one level has distorted the market is a weak argument for governmental intervention designed to bring about an offsetting distortion in another market. (If accepted, such an argument would entail a continuously increasing level of government regulation, since virtually every government regulation will cause some market distortion and thus, if the argument is accepted, justify further regulation, and so on ad infinitum.)

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[14] A recent study of solid-waste disposal, E. S. Savas, The Organization and Efficiency of Solid Waste Collection (1977), found (at page 136) that provision of garbage service by a single firm rather than competing firms offers economies in cities having more than 50,000 inhabitants. We are skeptical of this finding because it contravenes the standard presumption in economics that enlarging the market reduces the likelihood of natural monopoly by increasing the probability that more than one firm can grow to a size at which economies of scale are exhausted. But even if garbage service is a natural monopoly in the larger cities, this would not argue for public provision of the service (let alone provision at prices below cost), for reasons explained in the text.

Conceivably there are noneconomic reasons for subsidizing garbage collection and disposal. If so, these would be undermined by a tax on containers designed to increase the real costs of solid waste to households and so undo the subsidization of garbage service.

Even more important, the extent to which the costs of garbage service are actually externalized has been greatly exaggerated by advocates of mandatory deposits. To begin with, as shown in Table 7, most garbage collection is financed by user fees rather than taxes.

Table 7

Percentage of Collection Systems Using Each Method, by Recipient

	Tax	Fee
Small Residence	42.2	57.2
Multiple Dwelling	34.0	64.7
Commercial	31.8	68.1

Source: E. S. Savas, supra note 14.

To be sure, not all user fees cover the total costs of the garbage service. The Savas study[15] found that user fees (whether flat or variable—the study found no evidence that the choice between them made any difference in the amount of garbage produced) were closely related to the actual costs of service where the service was provided either completely privately or by cities that contract out collection to a private company. Only in cities that provide their own garbage service did the study find that the user fee failed to track closely the actual costs of service. (It attributed the difference to the fact that cities know how much their contract collection costs are, because they are billed for them, but lack a clear idea of municipal collection costs.) It therefore becomes highly relevant to determine how much garbage is collected privately (including by private contractors of cities) and how much publicly. As shown in Table 8, this depends on the particular category of garbage; nonetheless, it is plainly incorrect to regard municipal provision of garbage service as the predominant system of garbage collection in this country.

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[15] See note 14 supra.

Table 8

Percentage of Cities Utilizing Municipal versus Contract and Other Private Service

	Municipal	Contract and Other
Residential		
Bulk	50.7	65.6
Mixed Refuse	37.3	85.0
Multiple Dwellings	37.0	72.0
Institutional	34.4	72.8
Commercial	31.4	89.9
Parks	82.2	11.2
Litter Baskets	82.9	14.0

N.B.: Rows may sum to more than 100 percent because of coexistence of different arrangements in same city.

Source: E. S. Savas, *supra* note 14.

Furthermore, there are enormous regional differences in the degree to which public service is offered rather than (or alongside) some form of private service—the percentage of cities having public garbage service ranges from 18.9 percent in the Northeast to 73.0 percent in the South.

Still another relevant consideration is that the cost of municipal collection is generally much higher than that of contract collection, whether measured on a ton, cubic yard, or household basis, and for all sizes of municipality. This is shown in Table 9.

Table 9

Average Cost of Garbage Collection, by Type of Service and Population of City

Per Ton

	Under 10,000	10,000-50,000	Over 50,000
Municipal	$22.48	$19.47	$25.87
Contract	$18.86	$21.77	$18.09
		Per Cubic Yard	
Municipal	$ 5.80	$ 5.32	$ 7.83
Contract	$ 6.01	$ 6.49	$ 5.47

Annual, per Household, for Once-a-Week Curbside Collection

	3,000	15,000	30,000	60,000	90,000
Municipal	$25.51	$19.51	$19.55	$23.77	$23.59
Contract	$23.25	$17.77	$17.30	$18.40	$18.26

Source: E. S. Savas, supra note 14.

Thus, while municipalities that provide public garbage service may not have a good idea of their costs of service, those costs are so inflated that even user fees that fail to cover them fully may equal or exceed the costs that would be incurred under an efficient (contract) method of collection. There is accordingly no basis for a presumption that municipal user fees are below the attainable minimum social costs of providing garbage service to their customers.

Another important and neglected factor in trying to get an accurate idea of the externality involved in solid-waste disposal is that a great deal of the cost of solid waste is incurred within the household; and this part of the cost is fully internalized regardless of how garbage collection is priced. The household cost includes the allocation of space for storing garbage between pick-ups, the disagreeable characteristics of the garbage, and the time and exertion involved in carrying one's garbage to the point of collection.

That these costs are substantial is attested by the growth in demand for sink-disposal units, home garbage compactors, and other costly devices for reducing the amount of garbage in the home.[16] That the "household costs" of garbage have probably been growing over time is suggested by the decline in the frequency of garbage collection (a decline that has shifted more of the total cost of garbage to the household), the growth in the value of people's time mentioned in Part I, and the growth of suburbanization, which has increased both the distances that people must carry their garbage to be collected and the intervals between collections.

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[16] The number of trash compactors sold in the United States rose from none in 1970 to 320,000 units in 1973, while food waste disposers increased in number of units sold from 1,360,000 in 1965 to 2,970,000 units in 1973. In 1973, the average trash compactor sold for $220 and the food waste disposers cost $65 each on average. Statistical Abstract of the United States, 1975, tab. 1304.

The existence of substantial household costs of garbage collection gives consumers strong incentives to minimize the weight and volume of their garbage, even in areas where garbage service is financed by tax revenues or inadequate user fees.

To summarize, the costs of solid-waste disposal are partly internalized even where garbage collection is financed wholly out of tax revenues rather than user fees. Moreover, taxation is not the dominant method of financing; user fees are. And where user fees are used, there is no presumption that they fail to cover the true social costs of garbage service. Accordingly, the magnitude of any externality is much less than advocates of mandatory deposit laws believe; and what externaltiy there is can be readily corrected by switching from taxation to user fees as the method of financing local garbage collection. Given that any externality in this area is government-induced, it seems inappropriate in the extreme to prescribe more government as the cure, especially a federal-government cure to a problem whose magnitude varies greatly from local area to local area.

III. Mandatory Deposits: A Summary Critique

The previous parts of this study have laid the groundwork for a comparison of the costs and benefits of mandatory deposit legislation such as S. 276. Advocates of mandatory deposit legislation argue that the costs are negative—the substitution of returnables for nonreturnables will save the consumer money because the per-use cost of returnables is, assuming a reasonable trippage (i.e., reuse) rate, lower than of nonreturnables (this is because although returnables cost somewhat more to manufacture, they are used more than once). This argument is utterly specious, as shown in Part I. Returnables look cheaper because only the nominal, and not the full, price is considered. The latter includes the consumer's time and other inconvenience costs of returnables versus nonreturnables. When these costs are reckoned into the price of returnables, then, as we have demonstrated, the imposition of a 5 cents mandatory deposit requirement with its associated substitution effects would be the equivalent of a $1.5-2.5 billion excise tax. And to this substantial tax effect must be added the potentially serious anticompetitive effects of mandatory deposit legislation, discussed separately in the next part of this statement, as well as dislocations in the labor markets that we do not address in this study.

Given such effects, the benefits of mandatory deposit legislation would have to be substantial to warrant its enactment. The alleged benefits are those considered, and questioned, in Part II. Mandatory deposit legislation is defended as promoting energy conservation, consumer welfare, and cost internalization (with reference to both litter and solid-waste externalities). Yet we have seen that none of these grounds for container restrictions in general, or mandatory deposits in particular, can be accepted in the present state of knowledge on these questions. (The energy argument is especially unpersuasive as a support for mandatory deposits because of the savage effects of mandatory deposits on the container industry. We estimate that they could reduce the output of the beverage can and bottle industries by as much as 61 percent[17]—and no one proposes to force any other industry to reduce its output by anything like this proportion in order to conserve energy.)

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[17] This estimate is based on the fact that the market share of soft drink products in nonreturnable containers in Oregon dropped from 40 percent in 1972 to only 9 percent in 1973 after the passage of a mandatory deposit law in 1972. Assuming a trippage rate of .10 for returnables, the resulting reduction in can production was 74 percent and there was a net reduction in the number of bottles produced by 24 percent. Source: Stanford Environmental Law Society, Disposing of Nonreturnables 20 (1975).

Even if mandatory deposit legislation could be shown to have positive net social benefits compared with a policy of inaction, it would be necessary to consider the benefits and costs of a variety of alternative public policies designed to solve the problems at which mandatory deposit requirements are aimed. For example, it might be cheaper to increase the resources devoted to apprehending litterers and/or to picking up litter and to reform the pricing of municipal garbage service, as methods of eliminating any externalities associated with beverage cans and bottles, than to impose a mandatory deposit requirement. No responsible effort to cost out these alternatives has been made.

The case against adopting mandatory deposit legislation at this time is especially compelling when the issue is a national mandatory deposit law such as S. 276. If there is a solid-waste externality, it is certainly not uniform throughout the country--it is obviously greater in New York than in Oregon. No more are the social costs of litter uniform throughout the country.

Not only is a uniform national mandatory deposit requirement an excessively blunt instrument for dealing with whatever litter or garbage externalities may exist, but no reason appears why the social costs of garbage or of litter should be regarded as federal problems at all, rather than ones appropriately left to state action. With few exceptions, the costs of collecting and disposing of solid wastes, including litter, are borne entirely by residents of the state in which the solid wastes are generated. People who buy beer cans in New York do not discard them in Alabama, and the garbage collected in New York is not buried in Alaska. While no doubt there are instances where solid wastes produced in one state are disposed of in another, these are surely the exceptions. Since the problem of solid wastes is thus preddminantly a local rather than national one, the solution should be the responsibility of each state. This is especially indicated because the social costs of litter and solid wastes differ widely across states, so that a uniform national solution would almost certainly be inferior to each state's deciding what to do about the solid-waste problem within its borders. The responsiveness of individuals to a litter tax (one way of regarding a mandatory deposit requirement) probably also differs across states. Hence a uniform mandatory deposit requirement would have decidedly nonuniform effects on the litter problem. Some areas with serious litter problems might be largely unaffected, and others without such problems would be forced to bear a heavy new tax to no social purpose.

To summarize, the alleged externalities that constitute the strongest case for mandatory deposit requirements are best dealt with at the state level. This would be true even if the benefits of mandatory deposit requirements had been shown to exceed the costs; but no such demonstration has been made. Mandatory deposits remain an unproven experiment; it is premature to preempt further experimentation at the state level through federal legislation imposing a uniform and stern mandatory deposit requirement on the entire nation.

IV. The Competitive Effects of Mandatory Deposit Laws

Mandatory deposit laws may reduce the competitiveness of the bottling industry. One index of competitiveness is the number of firms serving a market. Proponents of mandatory deposit legislation contend that competition would be increased by such legislation, because a returnable-only system would reduce the size of the larger bottling plants and hence increase the number of plants. However, although the number of bottling plants may be greater under a returnable-only system, the number of firms serving particular markets (i.e., clusters of consumers) may be fewer, resulting in a net decrease in competitiveness.

The bottling industry experiences economies of scale. That is, up to a certain point, an increase in the size of a bottling plant will reduce the average cost per unit of output. We infer this from the fact that we do not observe a bottling plant adjacent to every grocery store: any plant that is further away could not compete with such a plant because of transportation costs were there no economies of scale in bottling. As distance from the customer increases, however, the extra costs of transportation will begin to dominate the lower production costs of larger bottlers. The balance will in turn determine the maximum shipping radius of each plant and hence, ultimately, the number of bottling firms that serve a given market. If transportation costs were to increase, other things the same, we would expect a reduction in the maximum efficient shipping radius, and consequently a decline in the total number of firms serving a given local market but (paradoxically) an increase in the number of local firms (to offset the decline in containers shipped from more distant places).

Since returnables are more expensive to ship than nonreturnables,[18] a system of mandatory deposits may cause greater concentration of market power in the relevant market areas. We have estimated the effect of the returnable/nonreturnable mix on the number of soft drink plants within a state. A regression

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18. There are several reasons why nonreturnables are cheaper to ship. A nonreturnable is lighter. This is especially true of cans (which also take up less space and are easier to handle than bottles). There is only transportation in one direction for a nonreturnable, unlike a returnable which must be transported both ways. We are informed that local delivery trucks are usually only about one-half full at the plant when delivering returnables in order to provide room for empties (picked up on route) which will return to the plant. There are no such constraints with convenience packaging. It seems reasonable that the same truck can deliver as much as three times as much beverage when delivering cans than when delivering returnable bottles given these savings in weight and space.

of the form $\log P = a + B_1 \log S + B_2 \log N + u$ was estimated over the fifty states using 1971 information, where P = number of soft drink plants in the state, S = sales in dollars of soft drinks within the state, N = percentage of nonreturnables, and u = random error term. Holding sales constant, we would expect to find that an increase in the share of nonreturnables would reduce the number of plants by allowing greater shipping distances. This hypothesis is confirmed by Table 10.

Table 10

Variable	Regression Coefficient	(T-statistic)
Sales	.6813	(17.5)
Percent Nonreturnable	-.2818	(-2.7)

Based on 50 observations: $R^2 = .88$

Over the past twenty years, the number of soft drink bottling plants has fallen by more than one half. However, competition may actually have increased because the switch to nonreturnables has allowed competitors once excluded by their distance from the customer to enter remote markets. It would take only a 40 percent increase in shipping radius to offset a 50 percent decline in the number of plants, and such an increase in shipping radius is indeed a plausible consequence of the switch from predominantly returnables to predominantly nonreturnables. Reversing the switch might thus cause a reduction in the amount of competition.

We have attempted to investigate this question empirically. According to the 1973 N.S.D.A. Financial Survey, the most profitable soft drink plants are of the 2,000,000 to 4,000,000 cases-per-year size. Assuming a returnable-bottle-only plant with a shipping radius of 150 miles (one day out-and-back) producing 3,000,000 cases per year, one plant can satisfy the consumption requirements of 200,000 average Americans, or about 3 persons per square mile within the service area. On average, Alaska could not even support one plant per area; Montana, Nevada and Wyoming could support only one plant in each market area; and Idaho, New Mexico, North Dakota, and South Dakota could support only three of these efficient sized plants per area. Obviously, such a law would result in quite anticompetitive conditions in many areas. It is not surprising that soft drinks in Alaska are almost 100 percent packaged in nonreturnables.

WATER USE IN BEVERAGE FILLING OPERATIONS

FINAL REPORT—NOVEMBER 2, 1981

MRI Project No. 7172-T

I. INTRODUCTION

During the past 3 years, changes in the climatic conditions in the United States have resulted in numerous areas of moderate to extremely severe drought. The importance of water conservation has been magnified by continuing shortages in the Southwest, as well as increasing shortages in other sections of the country. These water supply problems have caused water shortages in many agricultural areas, barge traffic interruptions on the Mississippi River due to low water levels, water rationing along the East Coast (particularly in the extreme drought areas of eastern Pennsylvania, northern New Jersey, and southeastern New York) and serious snow shortages in Colorado, Wyoming, Nevada, and California.

It is evident that water conservation practices must be expanded in many areas to help alleviate the current and future problems. Industries are looking for methods to conserve and recycle as much water as possible for processes currently in use. In some cases, alternative production schemes which allow significant reductions in water use are being considered.

II. OBJECTIVES

This study had three objectives:

1. to collect water use information on beverage fillling lines (both soft drink and beer filling lines) with an emphasis on differences relative to the containers in use,
2. to gather information on wastewaters, again, with an emphasis on identifying differences relative to the containers in use, and
3. to determine the status of water availability in the vicinity of each plant noting any mandatory or voluntary cutbacks in water use.

III. METHODOLOGY

The means by which these objectives have been pursued include on-site visits to filling lines, phone contacts with knowledgeable individuals, and the review of relevant literature. The primary source of information relative to the first objective has been the on-site interviews and filling line inspections. The collection of information for the second and third objectives involved the review of relevant literature in addition to the data gathered during the on-site surveys.

The two specific areas on the filling lines receiving the most scrutiny during the plant visits were: the early stage on filling lines where bottles and cans are cleaned prior to filling and the late stage on filling lines where the bottles and cans are warmed (or pasteurized in breweries) prior to being packaged. All other water uses, i.e., product water, cooling water, plant maintenance, etc., are not included since they are extraneous to the purposes of this undertaking, and remain essentially the same regardless of the type of containers in use.

IV. DESCRIPTION OF THE SURVEY SAMPLE

The survey sample consists of 60 filling lines observed in 14 soft drink plants and four breweries during the spring and summer months of 1981. The facilities selected for the study are located in five states representing eastern, midwestern, and western locations. No company names or exact plant locations are listed in order to protect the privacy of the cooperating firms.

V. RESULTS

The results of the study are presented in three subsections which parallel the three objectives: water use data, wastewater generation, and regional water availability.

Briefly summarized, refillable bottle filling lines were found to require approximately 15 times more water than can filling lines in soft drink facilities. In breweries, the water consumption difference is not as extreme due to the significance of water use by pasteurizers with either type of container. However, refillable bottle lines still require about three times more water than can filling lines. Insufficient data was located to compare wastewaters from refillable bottle and can filling lines in soft drink bottling plants. In breweries, refillable bottle filling lines were found to contribute much larger loads of $BOD_{(5)}$ (about 200 x more) and suspended solids (about 500 x more) to effluents than were can filling lines. The search for information on regional water availability resulted in a collection of technical report and popular press citations which suggest a growing trend toward increasingly serious water availability and water quality problems nationwide. The most definitive data was provided by the U.S. Water Resources Council and is highlighted in a series of charts in this report.

A. Water Use Data

The water use data upon which this portion of the study is based have been provided by plant personnel. Although no physical measurements were made by MRI, the data provided were judged to be consistent with on-site observations in all cases. During each plant visit, sufficient information was collected to permit the calculation of water consumption at the points of interest per unit production. In order to accomplish this end, data were gathered on each filling line describing:

- volume of containers;
- material composition of containers (glass, pastic, aluminum, steel, etc.);
- whether or not the containers were refillable;
- line speed;
- water consumption per unit time in soaking, washing, and/or rinsing;
- water required to charge the warmer, frequency of recharge in terms of operating hours, and the estimated volume of carry-out and evaporative losses (or water consumption per unit time by the warmer if available); and
- water consumption per unit time by the pasteurizer (in breweries only).

The information received in response to these inquiries is tabulated in detail in the appendix.

Water consumption during container cleaning prior to filling was found to be a significant fraction of total water use on both soft drink and brewery filling lines. Refillable bottle lines require 0.81 to 6.8 gallons of water per case of product because of the chemical cleaning and thorough rinsing which takes place.* Can lines and other nonrefillable container lines require much less water, 0.033 to 1.5 gallons per case, since only a quick rinse occurs prior to filling.

There is also a small quantity of water consumed during soft drink container warming prior to packaging. This is frequently a necessary step in the production of nonrefillable containers because condensation on cold bottles or cans would otherwise ruin paperboard cartons. However, due to the fact that refillable bottles are generally cased in more substantial cartons, e.g., wooden crates, warmers are usually not necessary. Compared to other water uses on filling lines, the quantity used by the warmers represents a minor volume, ranging from 0.0071 to 0.16 gallons per case.

Water consumption during the pasteurization of beer frequently represents the largest water use category on beer filling lines. The water use figures obtained during the survey indicate that the bottle filling lines in this sample consumed an average of approximately 3.2 gallons of water per case of product, while the can filling lines consumed an average of approximately 1.8 gallons per case--about half the quantity required by the bottle lines. This difference is due, in part, to the substantial advantage offered by aluminum cans over glass bottles in terms of heat transfer efficiency and to the generally faster line speeds common to can filling lines.

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* One case = 24 12 oz containers in all references to case units in this report.

Table 1 provides a water consumption breakdown summarizing the water use survey data. A total average water consumption per case for this survey population is given for each major category of interest. In the soft drink plants, refillable bottle lines consume 4.1 gallons of water per case of product, whereas the figure for can lines is only 0.26 gallons per case. In other words, these data indicate that over 15 times more water is required to fill a given amount of soft drink product in refillable bottles than would be required if cans were used. The comparison for beer filling lines shows a water consumption of 6.3 gallons per case on refillable bottle lines and 2.2 gallons per case on can lines.* In other words, about three times more water is consumed by refillable bottle lines than is consumed on can lines producing equal volumes of beer. These data are further illustrated in the bar graphs presented in Figure 1.

In the course of this investigation, two breweries were visited which were practicing extensive water recycling along their filling lines. These facilities were viewed to be atypical in terms of both facility age (one was a very new plant and the other had been modernized significantly over the last several years) and water recycling capabilities. However, their operations were of particular interest relative to water consumption, because they represent state-of-the-art practices. Figure 2 illustrates the water recycling features observed along these filling lines. In these plants, water is commonly used three or more times prior to discharge. The technology used in these two plants may or may not be applicable to many breweries due to physical configurations, space requirements, capital investment, and cash flow requirements.

As far as recycling of water on soft drink filling lines is concerned only one functioning example was observed (facility VI in the appendix data tables). In that plant, a portion of the rinse waters from can lines and nonrefillable container lines were used as makeup water for warmers. In several other plants, personnel suggested that they would have similiar recycling systems in place in the forseeable future.

B. Wastewater Generation

Soft drink bottlers and brewers most commonly do not maintain wastewater treatment plants. Although a few notable exceptions to this statement do exist, most plants discharge their effluents to municipal sewage treatment plants. A few of the 18 plants visited during this survey did report process adjustments and pH control efforts in response to requests by sewage treatment authorities, but none of the plants visited had their own treatment facilities.

In soft drink plants which handle refillable bottles, the bottle washer (or washers) is one of the largest producers of wastewater.

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* The breweries equipped for extensive recycling were not included in these averages, because their water consumption rates were atypically low when compared to the other breweries visited.

Despite the presence of other major water use areas in breweries, bottle washers also account for a significant portion of brewery wastewater volume--sometimes over 25% (Joyce et al., 1977).

Bottle washers must clean, sterilize, and rinse bottles which contain assorted debris on their return to the plant. This debris includes unused beverage, cigarette butts, bottle labels, other wastepaper, mold, soil, insect parts, and residues from non-beverage fluids placed in bottles following beverage consumption. The necessary cleaning and sterilization is accomplished by soaking the bottles in caustic baths maintained at an effective concentration of approximately 3% caustic, and subjecting the bottles to a series of high pressure spray rinses. All unwanted substances are thereby chemically scoured off of and out of the bottles. Because the caustic baths are only dumped periodically, the prime source of wastewater is the rinsewater. This wastestream contains a variety of debris and a small quantity of caustic. The flow rate ranges from around 20 gpm for the smallest bottle washers to over 100 gpm for large brewery bottle washers.

According to the Environmental Protection Agency (EPA), wastewater discharges from soft drink bottlers have a BOD_5 loading that ranges from 0.97 to 1.95 kg per cubic meter of beverage produced. This is equivalent to 0.018-0.037 lbs of BOD_5 per case of product. However, these data do not represent only the wastewaters generated along filling lines. A variety of other sources of wastewater are also included, i.e., building and equipment maintenance, cooling water for air compressors and refrigeration units, truck washing, and other miscellaneous uses. Similarly, it is impossible to distinguish between wastewaters from refillable bottle lines and can or other nonrefillable container Lines (Joyce et al., 1977).

Typical wastewater effluents from breweries measure higher, in terms of BOD_5, suspended solids, and other common wastewater parameters, than effluents from soft drink operations. In addition, individual breweries also generate much larger volumes of wastewater than do individual soft drink plants. Consequently, EPA interst in brewery wastewaters has been more thorough than that devoted to the soft drink industry's wastewaters, and published data is much more detailed. Table 2 combines EPA data on filling line wastewaters with data from the current study to provide approximate values for BOD_5 and suspended solids contributed to plant wastewaters per case of product. These data suggest that refillable bottle lines generate wastewaters containing 3,500 to 7,600 mg* of BOD_5 and 1,400 to 3,200 mg of suspended solids per case of beer, whereas can lines generate only a fraction of this amount -- 14 to 56 mg of BOD_5 and 2.2 to 8.4 mg of suspended solids per case of beer.

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* No unit in the common English system of units is sufficiently small to be useful in this comparison, so milligrams (mg) are used. One milligram is equal to one one-thousandth of a gram, and one gram is equal to approximately 0.035 ounces.

TABLE 1

WATER CONSUMPTION BREAKDOWN PER CASE FILLED

	Average Water Consumption Per Case in the Survey Population[a,b] (gal.)	Percentage Breakdown (%)
Soft Drink Bottlers		
Refillable Bottle Lines		
Soaking, Washing, and Rinsing	4.1	100[c]
Can Lines		
Rinsing	0.22	85
Warming	0.04	15
Total	0.26	100
Breweries		
Refillable Bottle Lines		
Soaking, Washing, and Rinsing	3.1	49
Pasteurization	3.2	51
Total	6.3	100
Can Lines		
Rinsing	0.4	18
Pasteurization	1.8	82
Total	2.2	100

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[a] These averages and all other averages in this report represent simple averages. No attempt was made to weight averages according to production volume or any other variable.

[b] One case = 24 12 oz containers in these calculations.

[c] The use of wooden crates allows packaging without warming.

TABLE 2

APPROXIMATE QUANTITY OF SUSPENDED SOLIDS AND BIOLOGICAL OXYGEN DEMAND (5-DAY) CONTRIBUTED TO BREWERY WASTEWATER BY CONTAINER CLEANING

	Parameter Concentrations in Discharged Water		Rate of Wastewater Discharge per Case of Product[b,c]	Pollutant Load per Case of Product[e]	
	BOD_5[a] (mg/l)	SS[a] (mg/l)	l/case (gal/case)	BOD_5 mg/case (lbs/case)	SS mg/case (lbs/case)
Refillable Bottles	510	210	6.8-15 (1.8-4.0)	3,500-7,600 (0.0076-0.017)	1,400-3,200 (0.0031-0.0069)
Cans	20[d]	3[d]	0.72-2.8 (0.19-0.74)	14-56 (0.000032-0.00012)	2.2-8.4 (0.0000048-0.000019)

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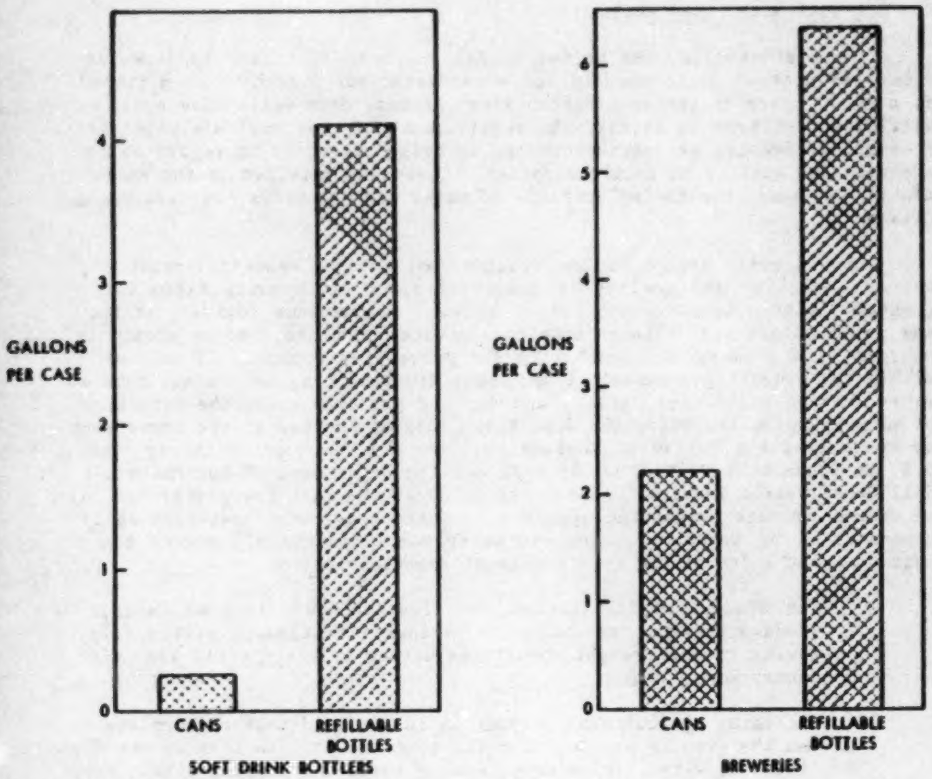
[a] Derived from Joyce, et al., 1977.

[b] Data collected during the current study.

[c] One case = 24 12 oz. containers.

[d] These data represent composite values for wastewaters generated in the rinsing of both cans and nonrefillable bottles.

[e] All calculations are rounded to 2 significant figures.



* One Case = 24 Twelve Ounce Containers

Figure 1 - Filling Line Water Consumption Per Case of Product*

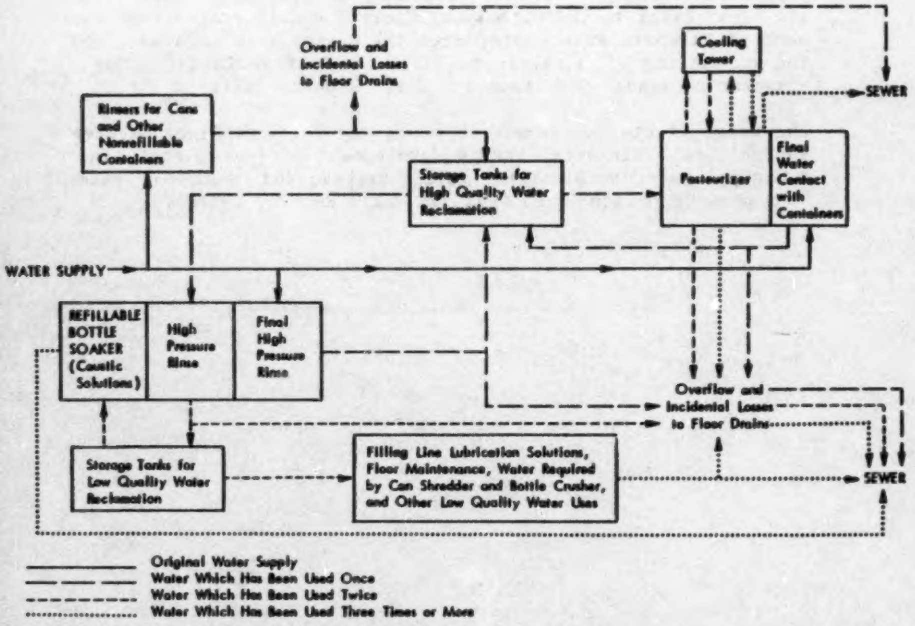

Overflow and Incidental Losses to Floor Drains
Cooling Tower
SEWER
Rinsers for Cans and Other Nonrefillable Containers
Storage Tanks for High Quality Water Reclamation
Pasteurizer
Final Water Contact with Containers
WATER SUPPLY
REFILLABLE BOTTLE SOAKER (Caustic Solutions)
High Pressure Rinse
Final High Pressure Rinse
Overflow and Incidental Losses to Floor Drains
Storage Tanks for Low Quality Water Reclamation
Filling Line Lubrication Solutions, Floor Maintenance, Water Required by Can Shredder and Bottle Crusher, and Other Low Quality Water Uses
SEWER
Original Water Supply
Water Which Has Been Used Once
Water Which Has Been Used Twice
Water Which Has Been Used Three Times or More

Figure 2 - A Generalized Flow Diagram Illustrating Water Recycling Practices Observed Along Brewery Filling Lines with Water Recycling Systems

C. Regional Water Availability

Historically, the United States has been fortunate in terms of water resources. Ample surface and groundwater supplies have been tapped as needed. Even in the arid southwestern states, deep wells have provided sufficient moisture to satisfy the requirements of that region's populace. However, increasing nationwide concern is being expressed in regard to the adequacy and quality of future supplies. Questions relative to the environmental and human health implications of water use practices are also being raised.

In every region of the country, water is an essential resource, but the quantity and quality of future supplies is commonly taken for granted. Little coordination occurs between the various federal, state, and local authorities with an interest in water supplies, and no agency is charged with primary responsibility for preventing future difficulties. Within the federal government alone, there are numerous independent sets of water-related priorities, goals, and ongoing projects under the direction of many agencies including the U.S. Army Corps of Engineers, the Department of the Interior's Bureau of Reclamation, the U.S. Geological Survey, the U.S. Environmental Protection Agency, and the Department of Agriculture's Soil Conservation Service (Mosher, 1981). Over the last few years, the consequences of this fragmented approach to water management have been aptly demonstrated by water shortages and water use conflicts all across the nation. Just a few of the more prominent examples include:

the widespread institution of voluntary--and, in some cases, mandatory--water rationing in various mid-Atlantic states following recent drought conditions during 1980 and early 1981 (Industry Week, 1981);

declining agricultural production in the arid southwestern states and the growing prospect for the same type of downturn on the High Plains as water tables drop, energy costs for pumping climb, symptoms of desertification become more widespread, and municipal and industrial consumers demand more and more of the remaining ground water supply (Foster et al., 1980 and Sheridan, 1981);

the continuing debate over the proposed Peripheral Canal to conduct water from northern to southern California--similar, but less publicized, projects include proposals to transport water from the Great Lakes to the water-poor Rocky Mountain states, the movement of Missouri River water from the Cornbelt to Colorado, and the channeling of Mississippi River water from Louisiana or Arkansas to Texas (U.S. News and World Report, 1981a);

the water rights controversies along the Colorado River between agricultural interests, energy development projects, state and municipal water authorities, Indian tribes, and "would-be" water consumers in Mexico (U.S. News and World Report, 1981a);

barge traffic interruptions on the Mississippi River during late 1980 and early 1981 due to low water levels (U.S. News and World Report, 1981b);

the surface and groundwater pollution caused by the improper handling of hazardous substances which has resulted in considerable public alarm over the safety of drinking water supplies, most notably, in the eastern states, but also in many other locations as well (U.S. News and World Report, 1981c);

an unusually high number of crop failures nationwide during the summer of 1980 because of dry conditions (U.S. News and World Report, 1981b);

the surface water pollution caused by inadequate sewage treatment facilities in many cities across the country (U.S. Water Resources Council, 1978);

the surface and groundwater pollution caused by "nonpoint"* sources most common in rural watersheds which receive heavy loads of agricultural chemicals and/or livestock wastes (Davis et al., 1981);

the questions being raised relative to the water which would be required by coal slurry pipelines originating in Wyoming or Montana (U.S. News and World Report, 1981a); and

the growing significance of water losses due to leaks in water distribution networks in older cities, such as Boston and New York (U.S. News and World Report, 1981a).

Large quantities of water are essential for agriculture, domestic, and commerical use, manufacturing, electric power generation, the development of mineral resources, navigation, commercial fisheries, recreation, and wildlife habitat. Because of the importance of water resources to all segments of society, the U.S. Water Resources Council publishes information which presents current and projected data on water use. These data indicate that the nation's surface and groundwater consumers are overdrawing both of these sources at many locations across the country.

Looking at surface waters first, Figure 3 separates the conterminous 48 states into three general categories - areas where less than 70% of the surface flow is depleted in an average year, areas where 70% of the surface flow is depleted in a dry year, and areas where 70% of the surface is depleted in an average year. The 70% depletion level is used as a reference point, because at that level a watercourse is approaching minimal flow for the maintenance of aquatic life and recreational uses. In addition, numerous locations are marked on Figure 4 where surface water shortages and water use conflicts are occurring or anticipated between offstream uses (i.e., domestic supplies, industrial or energy-related uses, and irrigation) and instream uses (i.e., fish and wildlife habitat, recreation, hydroelectric power generation, and navigation).

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* "Nonpoint" pollution refers to the drainage of water contaminated with agricultural chemicals and animal wastes into a waterway over many square miles of a watershed, as opposed to "point" pollution where an effluent is discharged into a waterway from a specific point, i.e., the end of a pipe.

Groundwater supplies are also inadequate in many locations across the country. Figure 5 identifies the major areas where groundwater is being pumped out faster than natural processes can replenish it. The biggest single cause of groundwater depletion, on a nationwide basis, is irrigation. However, in some locations, municipal and industrial users are also overdrawing the wells.

One of the most frequently cited problem areas is the Ogallala Aquifer which supplies water to portions of Texas, New Mexico, Colorado, Nebraska, Kansas, and Oklahoma. This aquifer stands out clearly in Figure 4 as the largest single groundwater problem area in the country. The region above the Ogallala Aquifer is known collectively as the High Plains. It is a significant producer of agricultural commodities--producing 25% of the nation's cotton, 38.5% of the grain sorghum, 16% of the wheat, and 13% of the corn. In addition, 40% of the grain-fed beef cattle are fattened there. Unfortunately, this agricultural activity depends heavily on center pivot irrigation which, in turn, is rapidly depleting groundwater supplies. A single center pivot irrigation rig can pump as much as 800 gallons of water per minute (U.S. News and World Report, 1981a).

Figure 6 identifies specific geographic points where declining groundwater levels and other symptoms of groundwater depletion have become problematic. The most concentrated clusters of these difficulties follow a pattern suggested by the location of the broader problem areas identified in Figure 5. However, some of the points included represent localized conditions outside these larger trouble zones.

VI. DISCUSSION

The first and most important objective of this study was the determination of water consumption differences along beverage filling lines due to the containers in use. The large number of soft drink bottlers and breweries across the country made a complete sample of all plants, or any sizable percentage of plants, economically and logistically impractical.* Consequently, a small group of facilities was selected, and data were gathered at these locations to construct a set of typical water consumption figures per unit production along beverage filling lines. Though it is not possible to guarantee that water consumption averages obtained during this study precisely represent and reflect nationwide industry averages, CMI has circulated the survey results within the industry and the resulting feedback indicates that these data are representative.

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* There are over 2,000 soft drink bottling and canning plants nationwide (U.S. Department of Commerce 1981). For the brewery category, the number of plants is over 85 (U.S. Bureau of Alcohol, Tobacco, and Firearms, 1980).

If one assumes that the survey averages are typical for the industry--realizing the statistical limitations already described--it is possible to calculate approximate impacts of deposit legislation on water consumption along filling lines. For example, in the State of Michigan deposit legislation was followed by a 12% increase in the sales volume of beer in refillable glass bottles and a 24% decrease in the sales volume of beer in cans (United States Brewers Association 1981). Computing the actual product volumes involved (as shown in Table 3), corresponding filling line water consumption values can be estimated. An approximate annual increase of 45 million gallons of process water is indicated for the production facilities which serve the Michigan market.

Applying this same approach to the entire nation in a scenario which includes the enactment of federal deposit legislation, it is possible to calculate a hypothetical increase in filling line water consumption on a countrywide basis. Assuming the same 12% increase in usage of refillable bottles which has been observed in Michigan and basing calculations on a 1980 national beer production volume of 194.1 million barrels,* an approximate national increase of 1.3 billion gallons of brewery process water is suggested. Performing the same exercise for the soft drink industry--assuming a 12% increase for refillable bottles and based on the 1980 national soft drink production volume of 3.817 million cases*--a hypothetical increase of 1.7 billion gallons results.

TABLE 3

APPROXIMATE INCREASE IN WATER CONSUMPTION DUE TO SHIFT IN BEER CONTAINER MIX IN THE STATE OF MICHIGAN FOLLOWING DEPOSIT LEGISLATION

	Market Shift (%)	Annual Sales Volume Shift (millions of cases)[a,b]	Approximate Annual Increase in Brewery Water Consumption (millions of gallons)[c]
Refillable bottles	+12	+11	45
Cans	-24	-25	d

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[a] One case = 24 12 oz containers in these calculations.

[b] Based on sales statistics provided by the United States Brewers Association (United States Brewers Association, 1981).

[c] Based on the water consumption rates per case for refillable bottles and cans for the population surveyed during this study.

[d] There is no decline in water consumption represented here, because the loss in canned beer production volume not accounted for by the increase in refillable bottle usage, is assumed to shift into other containers whose water consumption per unit production is similar to that of cans.

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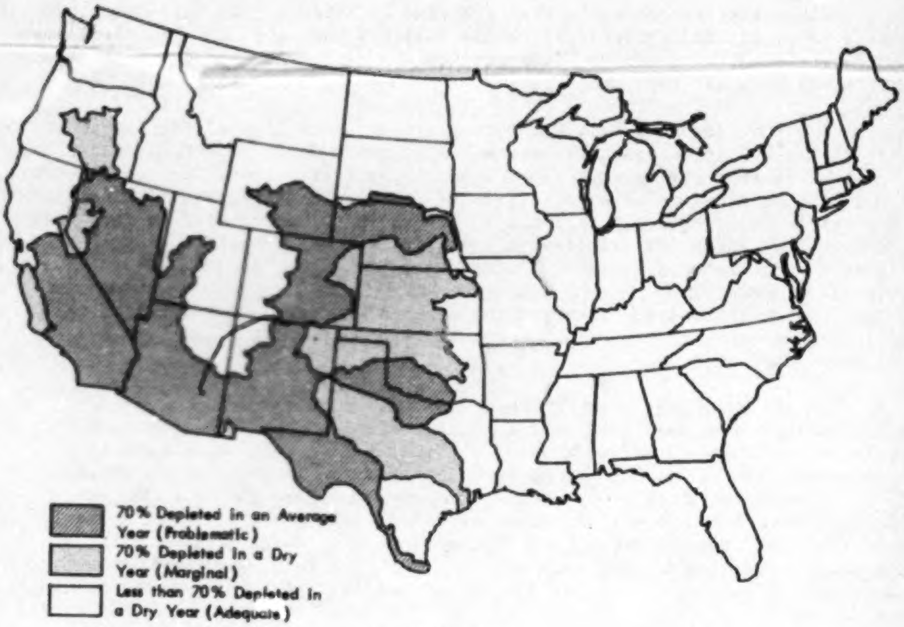
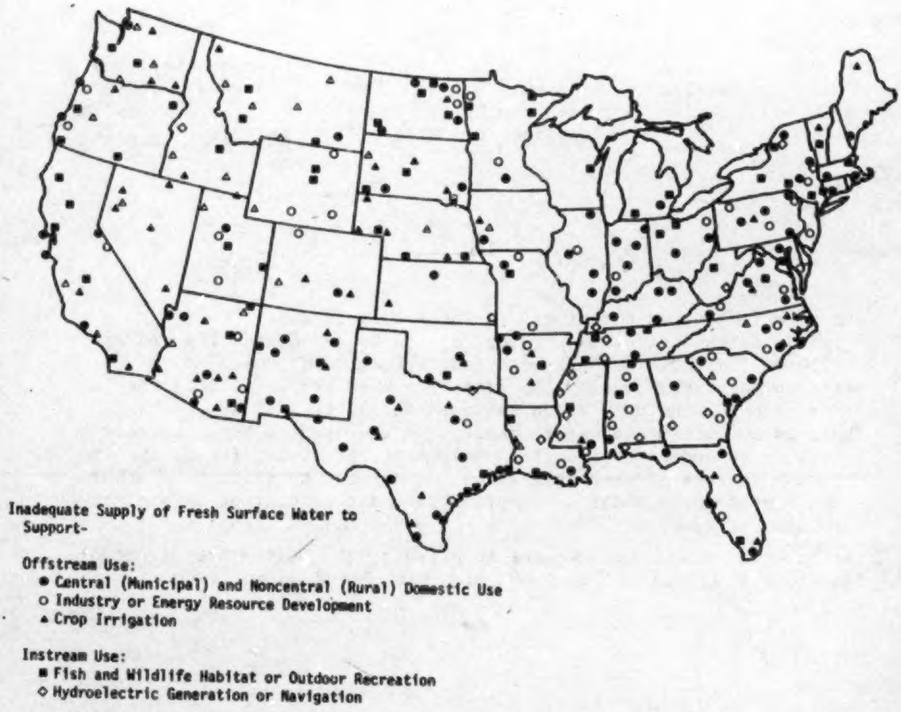
* These production statistics were supplied by the United States Brewers Association (1981) and the National Soft Drink Association (1981).


▨ 70% Depleted in an Average Year (Problematic)
▒ 70% Depleted in a Dry Year (Marginal)
☐ Less than 70% Depleted in a Dry Year (Adequate)

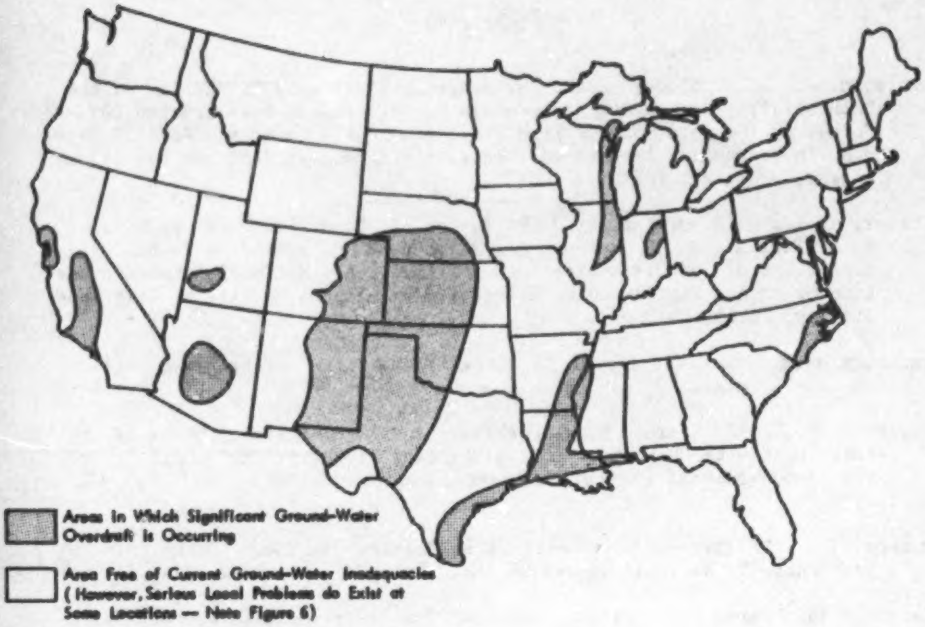
* Adapted from U.S. Water Resources Council (1978)

Figure 3 - Adequacy of Surface-Water Streamflow, 1975-2000*


Inadequate Supply of Fresh Surface Water to Support-
Offstream Use:
● Central (Municipal) and Noncentral (Rural) Domestic Use
○ Industry or Energy Resource Development
▲ Crop Irrigation
Instream Use:
■ Fish and Wildlife Habitat or Outdoor Recreation
◇ Hydroelectric Generation or Navigation
△ Conflict Between Offstream and Instream Uses

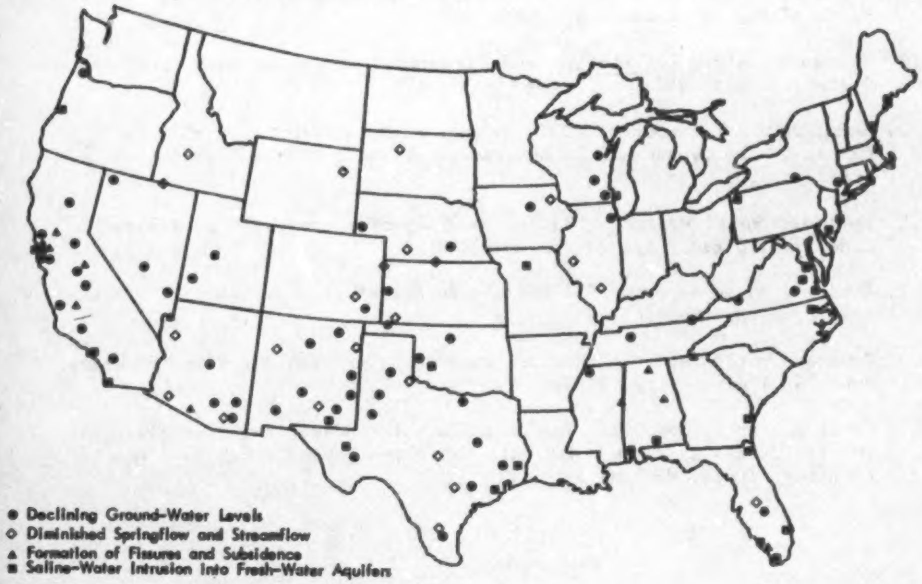
* Adapted from U.S. Water Resources Council (1978)

Figure 4 - Specific Surface-Water Supply Problems Occurring and Anticipated, 1975-2000*


▨ Areas in Which Significant Ground-Water Overdraft is Occurring
☐ Area Free of Current Ground-Water Inadequacies (However, Serious Local Problems do Exist at Some Locations — Note Figure 6)

*Adapted from U.S. Water Resources Council (1978)

Figure 5 - Areas Where Significant Groundwater Overdraft is Occurring*


● Declining Ground-Water Levels
◇ Diminished Springflow and Streamflow
▲ Formation of Fissures and Subsidence
■ Saline-Water Intrusion into Fresh-Water Aquifers

* Adapted from U.S. Water Resources Council (1978)

Figure 6 - Specific Groundwater Supply Problems Currently Occurring

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TABLE A-1

WATER CONSUMED DURING CONTAINER CLEANING PRIOR TO FILLING IN THE SOFT DRINK FACILITIES SURVEYED[a,b]

Facility Designation	No. of Filling Lines	Water Consumed in Soaking, Washing and/or Rinsing (gpm)			Volume of Beverage Bottled or Canned per Minute (cases/min)			Water Consumer per Case Filled[c] (gal./case)		
		R	C	Other	R	C	Other	R	C	Other
I.	2	80	4	4	13	23	17-27	6.2	0.17	0.15-0.24
II.	1	39[d]	none	6	13-17	-	17-27	2.3-3.0	-	0.22-0.35
III.	1	17	none	17	2.7-4.4	-	4.4	3.9-6.3	-	3.9[e]
IV.	3	none	4	4	-	62-120	67	-	0.033-0.065	0.060
V.	1	48[f]	none	10	-	-	11-18	-	-	0.56-0.91
VI.	4	none	8	8	-	100	53-67	-	0.080	0.12-0.15
VII.	3	60	4[g]	8[g]	12-19	25	37-41	3.2-5.0	0.16	0.20-0.22
VIII.	3	30-43	none	4-13	11-32	-	14-53	0.81-2.7	-	0.29-0.31
IX.	1	82	none	20	12	-	13-17	6.8	-	1.2-1.5
X.	4	42	5	15	31	19	9-32	1.4	0.12	0.18-0.35
XI.	4	60-130	7	15-45	11-47	42	21-71	3.1-6.2	0.17	0.17-0.34
XII.	2	none	60	none	-	80	-	-	0.75	-
XIII.	2	58-120[h]	none	10-20[g]	12-38	-	12-32	2.8-5.3	-	0.53-0.83
XIV	2	none	9	12	-	36	19-22	-	0.25	0.24-0.29
Averages[i]								6.1	0.22	0.36

---

[a] R - refillable bottles.
C - cans, both aluminum and steel.
Other - nonrefillable glass, plasti-shield glass, and plastic bottles.

[b] All calculations are rounded to two significant figures.

[c] One case = 24 12 oz containers.

[d] Estimated at 70% of manufacturer's specifications.

[e] Nonrefillable bottles are run through the bottle washer in this plant. Consequently this value is not included in the calculation of the average water consumption per case for this category.

[f] Not presently in use.

[g] HRI estimate at time of observation.

[h] Estimated at 90% of manufacturer's specifications.

[i] In cases where there was a range rather than a single value, the midpoint of the range was used in the calculation of averages.

TABLE A-2

WATER CONSUMED BY THE WARMERS IN THE SOFT DRINK FACILITIES SURVEYED[a]

Facility Designation	Number of Warmers	Total Capacity (gal.)	Carryout, Overflow, and Evaporative Losses per 40 hr of Operation[b] (gal.)	Period of Operation Between Dumping and Refilling (hr)	Total Equivalent Water Consumption (gpm)	Water Consumed Per Case Filled[c] (gal.)
I.	2	4,500	2,200	40	2.8	0.056-0.070
II.	1	600	300	40	0.38	0.014-0.022
III.	1	No data	--	--	--	--
IV.	3	7,410	d	d	2.6-3.6	0.019-0.020
V.	1	600	120[e]	40	0.30	0.017-0.027
VI.	4	3,000	0[f]	40	1.2	0.0071-0.0080
VII.	3	2,790	1,400	8	6.4	0.097-0.10
VIII.	3	2,620	1,300	40	1.6	0.030-0.11
IX.	1	500	250	80	0.21	0.012-0.016
X.	2	1,800	900	40	1.1	0.022-0.039
XI.	1	d	d	d	10.0	0.091-0.16
XII.	2	1,080	540	8-16	1.5	0.019
XIII.	2	1,500	750	16	1.9	0.061
IXV.	2	1,500[g]	d	d	2.0	0.034-0.036
Average						0.044

---

[a] All calculations are rounded to 2 significant figures.

[b] Assuming a 50% loss of total volume per 40 hr of operation.

[c] One case = 24 12 oz containers in these calculations.

[d] These values were not necessary because water consumption figures on these warmers were provided by plant personnel.

[e] Estimate provided by plant personnel.

[f] Recycled rinse waters replace all carryout, overflows, and evaporative losses on these lines.

[g] MRI estimate.

TABLE A-3

WATER CONSUMED DURING CONTAINER CLEANING PRIOR TO FILLING IN THE BREWERIES SURVEYED[a,b]

Facility Designation	Number of Filling Lines	Water Used in Soaking, Washing and/or Rinsing (gpm)			Volume of Beverage Bottled or Canned Per Minute (cases/min)[c]			Water Consumed per Case Filled[c] (gal/case)		
		R	C	Other	R	C	Other	R	C	Other
I.	4	250	< 60	30	62	80	22-31	4.0	< 0.74	0.97-1.4
II.	8	160	10	75	49-89	53	180-190	1.8-2.7	0.19	0.38-0.43
Averages[d]								3.1	< 0.46	0.80
Facilities Practicing Extensive Water Recycling										
III.	8	24[e]	10[f]	180[f]	17	89	150-160	1.4	--[f]	--[f]
IV.	7	20[g]	--[f]	--[f]	25	98	150-160	0.8	--[f]	--[f]
Average								1.0		

---

[a] R - refillable bottles.
C - cans, both aluminum and steel.
Other - nonrefillable glass.

[b] All calculations are rounded to two significant figures.

[c] One case = 24 12 oz containers.

[d] In cases where there was a range rather than a single value, the midpoint of the range was used in the calculation of averages.

[e] 71 gpm runs through the soaker and the associated rinsers on this filling line, but 47 gpm is reclaimed in a recycling system.

[f] All of the rinse waters on these lines are recycled except for occasional overflows and other incidental losses to the floor drains.

[g] MRI estimate at time of observation; a significant portion of the rinse water used by this bottle washer is recycled.

TABLE A-4

WATER CONSUMED BY PASTEURIZERS IN THE BREWERIES SURVEYED[a,b]

Facility Designation	Number of Pasteurizers	Containers in Use	Rate of Water Consumption (gpm)			Average Water Consumption Per Filling Line[c] (gpm)	Average Water Consumption Per Case Filled[d] (gal.)
			Winter	Summer	Average		
I	2	Bottles[e]	140	300	220	110	3.5
	1	Cans	80	200	140	70	1.8
II	4	Bottles[e]	--	--	380	95	2.9
	1	Cans	--	--	88	88	1.7

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[a] All calculations are rounded to 2 significant figures.

[b] There was no significant consumption of fresh water by pasteurizers in the breweries equipped for recycling, so those breweries are not included.

[c] For this tabulation, there is assumed to be one filling line per filler in order to allow comparisons of water use per unit production between situations where one filler feeds one pasteurizer and where two fillers feed one pasteurizer.

[d] One case = 24 12 oz containers in these calculations.

[e] Approximately 67-75% of the bottles included in these calculations are refillable glass bottles, the rest are nonrefillable glass bottles.

TABLE A-5

REPRESENTATIVE WATER CONSUMPTION RATES FOR TYPICAL CAN AND REFILLABLE BOTTLE FILLING LINES ENCOUNTERED DURING THIS SURVEY[a]

	Bottle Washer and High Pressure Rinse (gpm)	Rinse Only (gpm)	Warmer (gmp)	Pasteurizer (gpm)	Line Speed (12 oz Containers/min)	Water Consumed per Case Filled[b] (gal/case)
Soft Drink Lines						
Refillable Bottles	55	--	--	--	300	4
Cans	--	9	1	--	1,000	0.2
Beer Lines						
Refillable Bottles	100	--	--	105	800	6
Cans	--	15	--	85	1,100	2

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[a] This table is intended to be a comparison of water use on a typical can line versus a typical refillable bottle line in plants with no recycling.

[b] One case = 24 12 oz containers. All values are limited to one significant figure.